

# SERVICE MANUAL

**NAD**

**L 40**  
COMPACT  
DISC RECEIVER

**L 40**  
COMPACT  
DISC RECEIVER

## SAFETY INFORMATION

### CAUTION

**CAUTION** - INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.

**ADVARSEL** - USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.

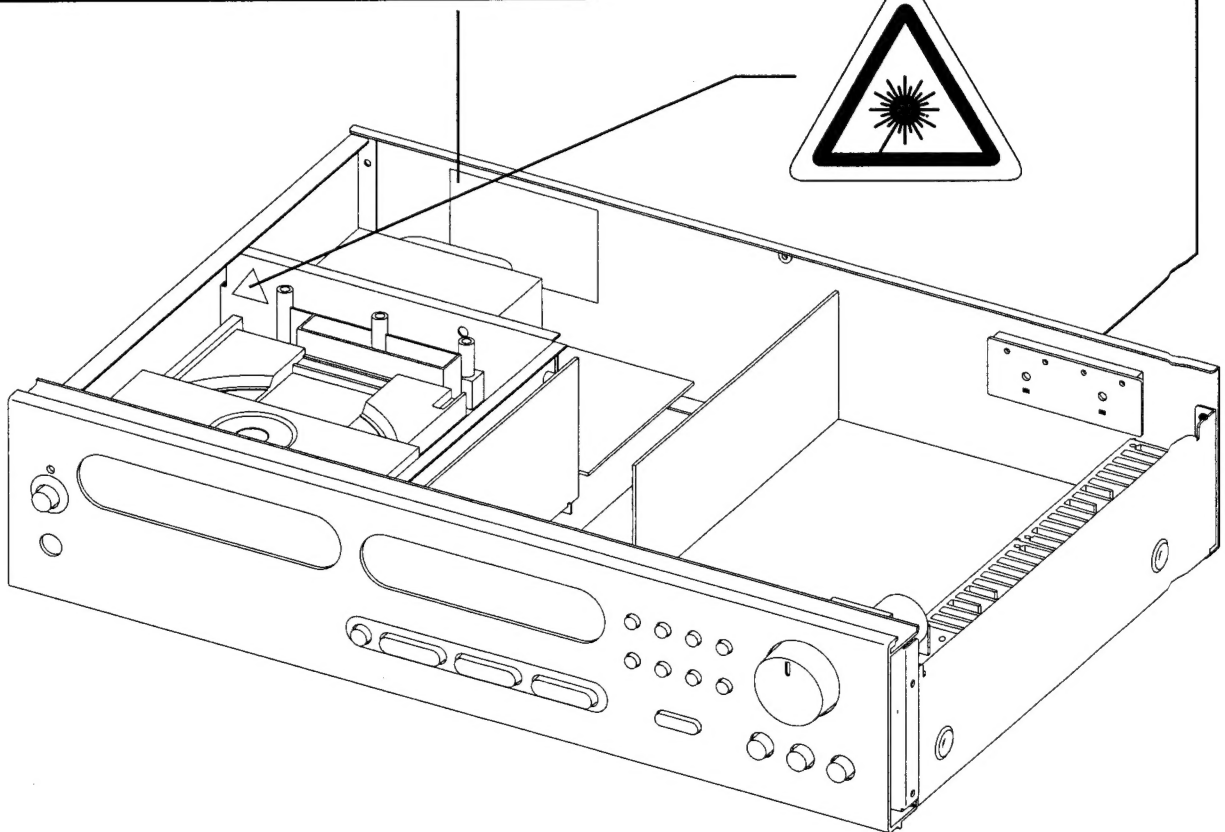
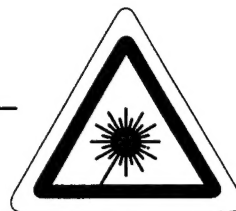
**ADVARSEL** - USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGA UDSÆTTELSE FOR STRÅLING.

**VARNING** - OSYNLIG LASERSTRÅLNING NÅR DENNA DEL ÄR ÖPPNAD OCH SPÄRRAR ÄR URKOPPLADE. STRÅLEN ÄR FARLIG.

**VARO!** - AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTINA NÄKTMÄTONTÄ LASERSÄTEILYLLE. ÄLÄ KAISO SÄTEESEEN.

**VORSICHT!** - UNSICHTBARE LASERTRAHUNG TRITTT AUS, WENN DECKEL GEÖFFNET UND WENN SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT IST. NICHT DEM STRAHL AUSSETZEN.

**CLASS 1  
LASER PRODUCT**



The lightning flash with arrowhead, within an equilateral triangle is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure; that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES.

OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS :-

- (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND
- (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRABLE OPERATION.

## SERVICE SAFETY PRECAUTIONS

### 1. Replacing the fuses

**CAUTION:** FOR CONTINUED PROTECTION AGAINST THE RISK OF FIRE REPLACE ONLY WITH SAME TYPE OF FUSE.

Reference No	Part Number	Description
M410-M412*AH	5100-1020-1A	Fuse 1A 250V Time Lag (UL/CSA)
M410-M412*C	5100-1020-1B	Fuse 1A 250V Time Lag (SEMKO/VDE)
M404-M405*AH	5120-0037-0	Fuse 3.15A 250V Time Lag (UL/CSA)
M404-M405*C	5120-0065-0	Fuse 2A 250V Time Lag (SEMKO/VDE)


NOTE :

- <\*AH > : USA, CANADIAN MODEL ONLY.
- <\*C > : EUROPEAN MODEL ONLY.

### 2. Safety check out

(Only U.S.A. model)

Before returning the product to the customer, make leakage current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit.

Parts marked with the symbol  are critical with regard to the risk of fire and electric shock.  
Replace only with parts recommended by the manufacturer.

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# SPECIFICATIONS

## PREAMPLIFIER AND POWER AMPLIFIER SECTIONS

CONTINUOUS AVERAGE POWER OUTPUT INTO 8Ω		20 W (13 dBW)
(Min. power per channel, 20Hz-20kHz, both channels driven, with no more than rated distortion)		
Rated distortion (THD 20Hz-20kHz)		0.07%
Clipping power (maximum continuous power per channel)		25 W
IHF dynamic headroom at 8 Ω		+3 dB
IHF dynamic power (maximum short term power per channel)	8Ω:	40 W (16 dBW)
	4 Ω:	60 W (17.8 dBW)
	2 Ω:	80 W (19 dBW)
Slew rate		>20 V/usec
Damping factor (ref. 8 ohms 50Hz)		>100
THD + SMPTE + IHF I.M. (from 250mV to rated output)		<0.07%
Input impedance		80 kΩ + 220 pF
Input sensitivity (for rated output into 8Ω)		135 ±10 mV
Signal/Noise ratio, A weighted		80 dB
Frequency response (20Hz-20kHz)	ref. 1W	
	Tone defeat on	0± 0.5 dB
	Tone defeat off	0± 0.8 dB
Channel separation (2V in, 10W out, 1kHz)		60 dB
Headphone output in 0.05%, 600Ω load, AUX IN 500mV 1 kHz		5 ± 1 V
<b>Controls</b>		
Bass	100Hz	±7 dB at 100 Hz
Treble	10kHz	±6 dB at 10 kHz

## FM TUNER SECTION

		<u>*C</u>	<u>*AH</u>
Input level is expressed as the reading in open-circuit of 75-ohm source impedance signal generator			
Usable Sensitivity ( 98 MHz)		≤ 18 dBμ	≤ 20 dBμ
50 dB Quieting	Mono	≤ 20 dBμ	≤ 20 dBμ
	Stereo	≤ 38 dBμ	≤ 38 dBμ
60 dB Quieting	Mono	≤ 30 dBμ	≤ 28 dBμ
	Stereo	≤ 48 dBμ	≤ 46 dBμ
Signal / Noise Ratio (60 dBμ, IHF wtd)	Mono	≥ 65 dB	≥ 65 dB
	Stereo	≥ 60 dB	≥ 60 dB
Frequency Response (30 Hz - 15 kHz, 60 dBμ)		0 ± 0.7 dB	0 ± 0.7 dB
Channel Separation (60 dBμ)	30 Hz	≥ 30 dB	≥ 30 dB
	1 kHz	≥ 32 dB	≥ 32 dB
	10 kHz	≥ 27 dB	≥ 28 dB
Alternate Channel Selectivity (40 dBμ, ± 400 kHz)		≥ 65 dB	≥ 60 dB
Capture Ratio (40 dBμ)		≤ 7 dB	≤ 5 dB
AM Suppression (60 dBμ, 100% Mod.FM, 30% Mod AM)		≥ 51 dB	≥ 52 dB
Image Rejection (119.4 MHz)		≥ 78 dB	≥ 74 dB
I.F. Rejection (10.7 MHz)		≥ 82 dB	≥ 75 dB
Pilot Suppression (60 dBμ)		≥ 60 dB	≥ 60 dB
THD (60 dBμ, 100%Mod. for AH, 40% Mod. for C,1 kHz)			
	Mono	≤ 0.6%	≤ 0.8%
	L - R	≤ 0.8%	≤ 0.8%
	L + R	≤ 0.8%	≤ 0.8%
Auto-Search Sensitivity		16-30 dBμ	16-30 dBμ
Center Tune Sensitivity		16-30 dBμ	16-30 dBμ
Stereo Indicator Sensitivity	On	18-26 dBμ	18-26 dBμ
	Off	17-25 dBμ	17-25 dBμ
RDS decode Sensitivity		16-26 dBμ	—



## **CD PLAYER SECTION**

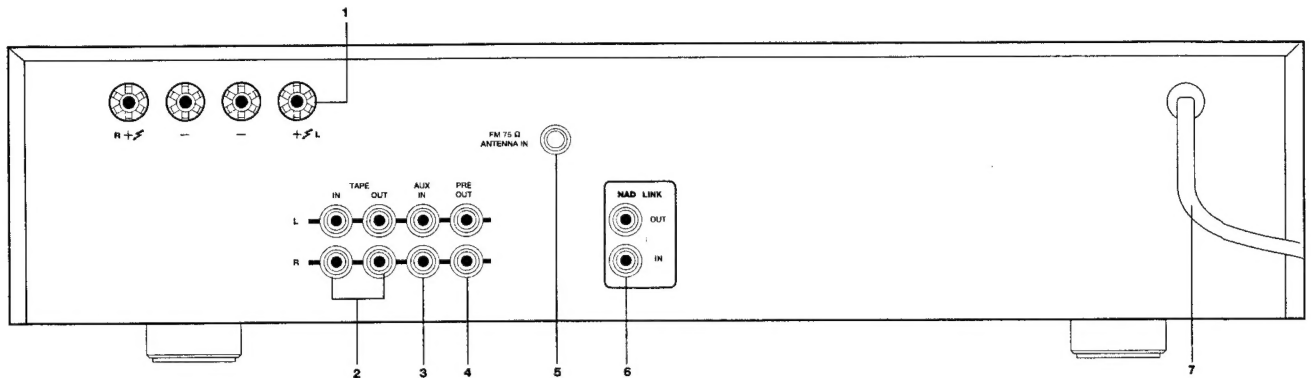
Disc Capacity .....	One Disc, 120 or 80 mm
Decoding .....	Delta Sigma
Digital Filter .....	8 Times oversample
Analog Filter .....	2 pole active
Frequency Response .....	+/- 0.5 dB, 5 Hz - 20 kHz
De-Emphasis Error .....	+/- 0.3 dB
THD (at 0 dB, 1 kHz) .....	0.009%
Intermodulation Distortion .....	< -100 dB, 19 + 20 kHz
Dynamic Range .....	96 dB
Linearity .....	+/- 0.5 dB, 0 dB to -80 dB
Signal / Noise Ratio (A-Weighted) .....	96 dB, De-Emphasis on 96 dB, De-Emphasis off
Channel Separation    1 kHz .....	> 80 dB
10 kHz .....	> 72 dB
Wow and Flutter .....	Unmeasurable (Quartz Crystal Accuracy)
Digital Error Correction .....	CIRC with double error correction in C1 and C2

## **PHYSICAL SPECIFICATIONS**

Dimensions (Width x Height x Depth)	435 x 95 x 285 mm
Net weight	6.4 kg (14.08 lbs)
Shipping weight	8.0 kg (17.6 lbs)

# REAR PANEL / FRONT PANEL VIEW

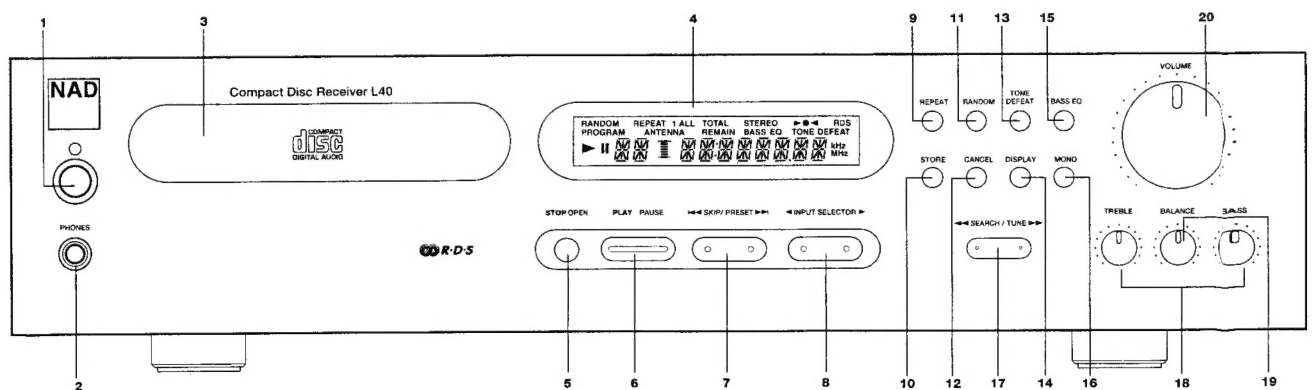
## REAR PANEL



1. SPEAKER TERMINALS
2. TAPE IN/OUT
3. AUX INPUT
4. PRE OUT

5. FM ANTENNA TERMINAL
6. NAD LINK IN/OUT
7. AC POWER CORD

## FRONT PANEL



1. POWER ON / OFF SWITCH
2. HEADPHONE
3. DISC DRAWER
4. LCD DISPLAY
5. STOP/OPEN
6. PLAY/PAUSE
7. SKIP/PRESET
8. INPUT SELECTOR
9. REPEAT
10. STORE

11. RANDOM
12. CANCEL
13. TONE DEFEAT
14. DISPLAY
15. BASS EQ
16. MONO
17. SEARCH/TUNE
18. TREBLE/BASS CONTROLS
19. BALANCE CONTROL
20. VOLUME CONTROL

DISASSEMBLY INSTRUCTIONS

1. Remove machine screws M 4.0 x 6.0 ( ① to ④ ) from the side panels.  
Remove tapping screw 3.0 x 8.0 ⑤ from the back panel.  
Refer to **Figure No. 1**.

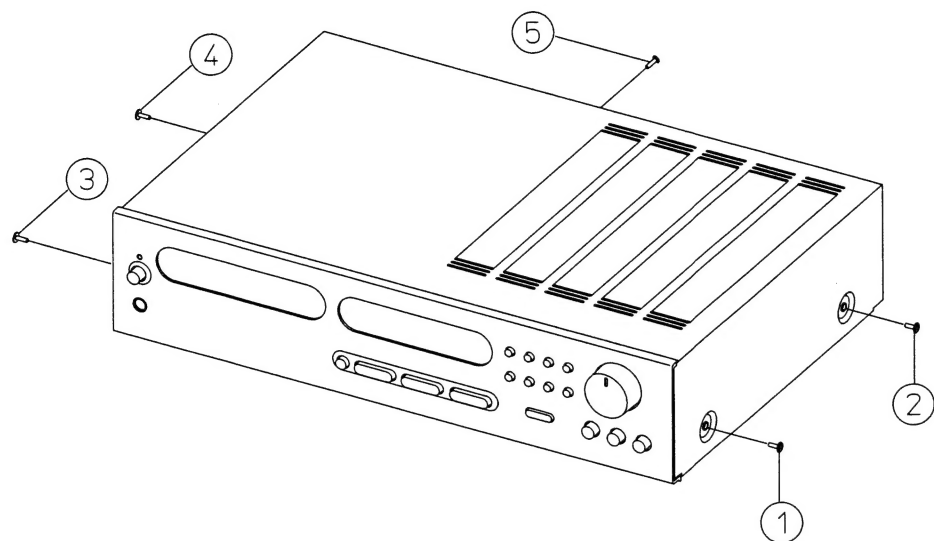


Figure No. 1.

2. Pull both sides of the TOP COVER slightly outwards ⑥ and tilt approx. 35° and then remove in the direction as indicated by the arrow ⑦. Refer to **Figure No. 2**.

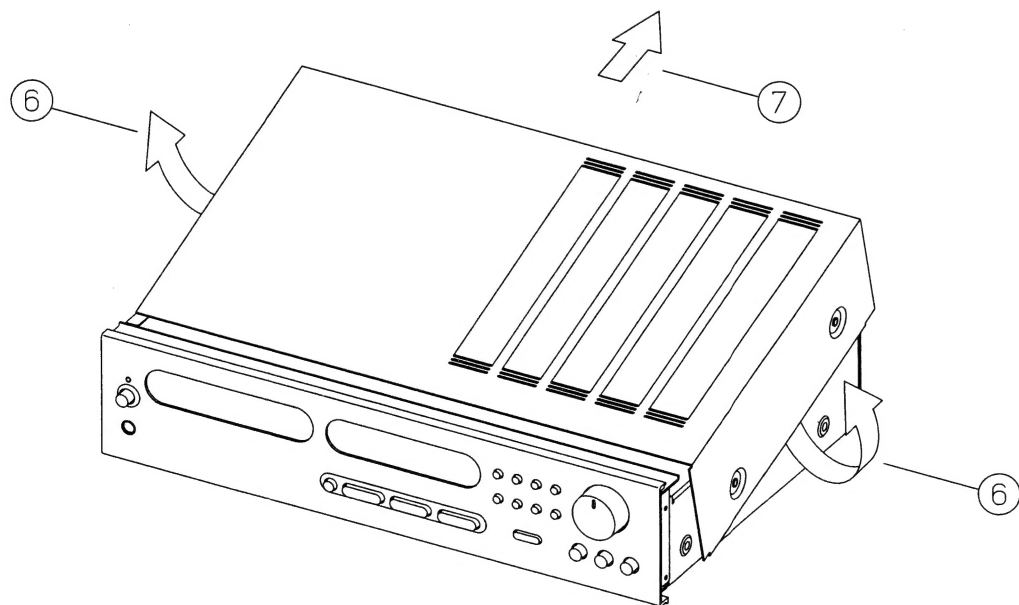
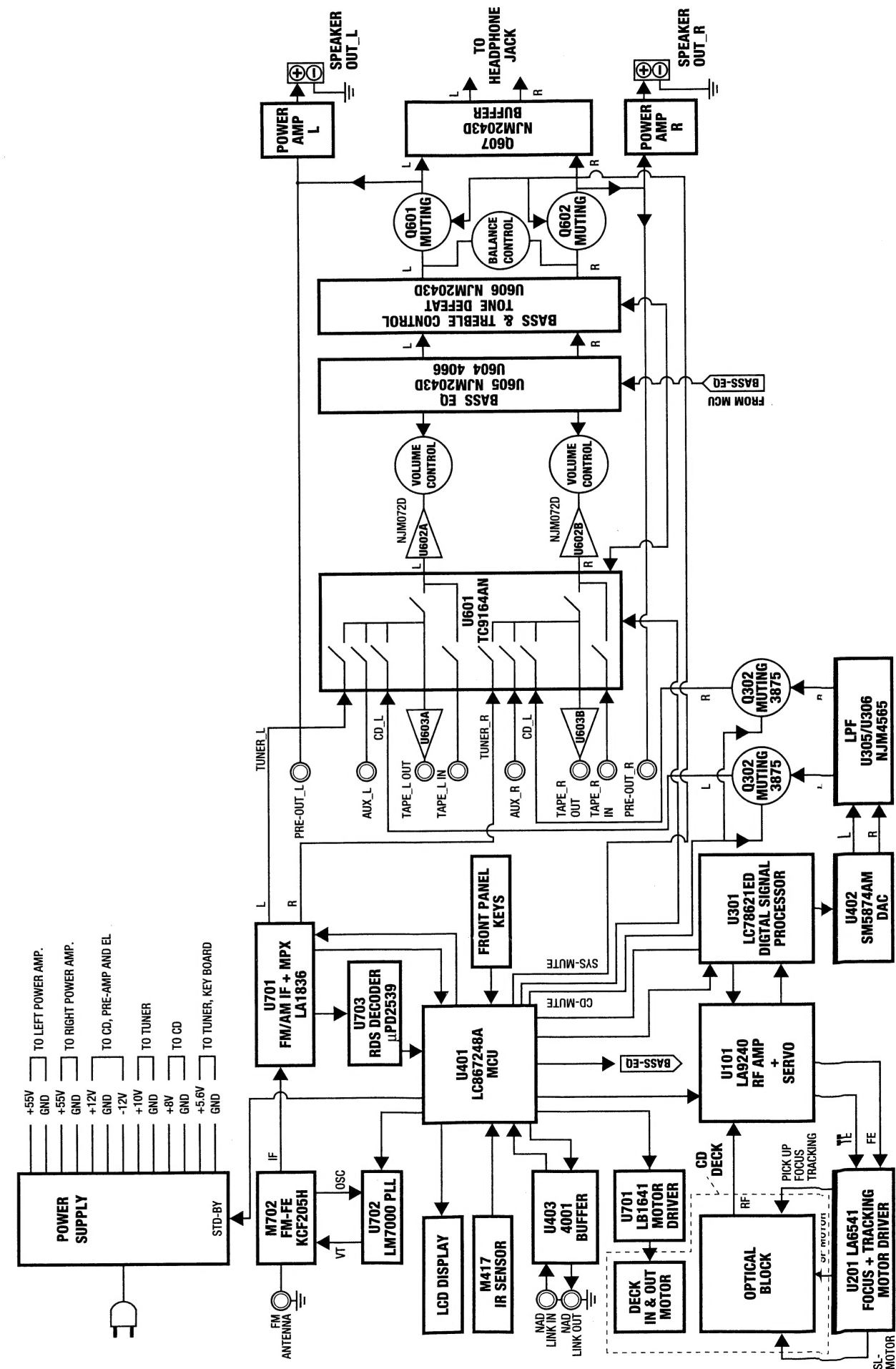
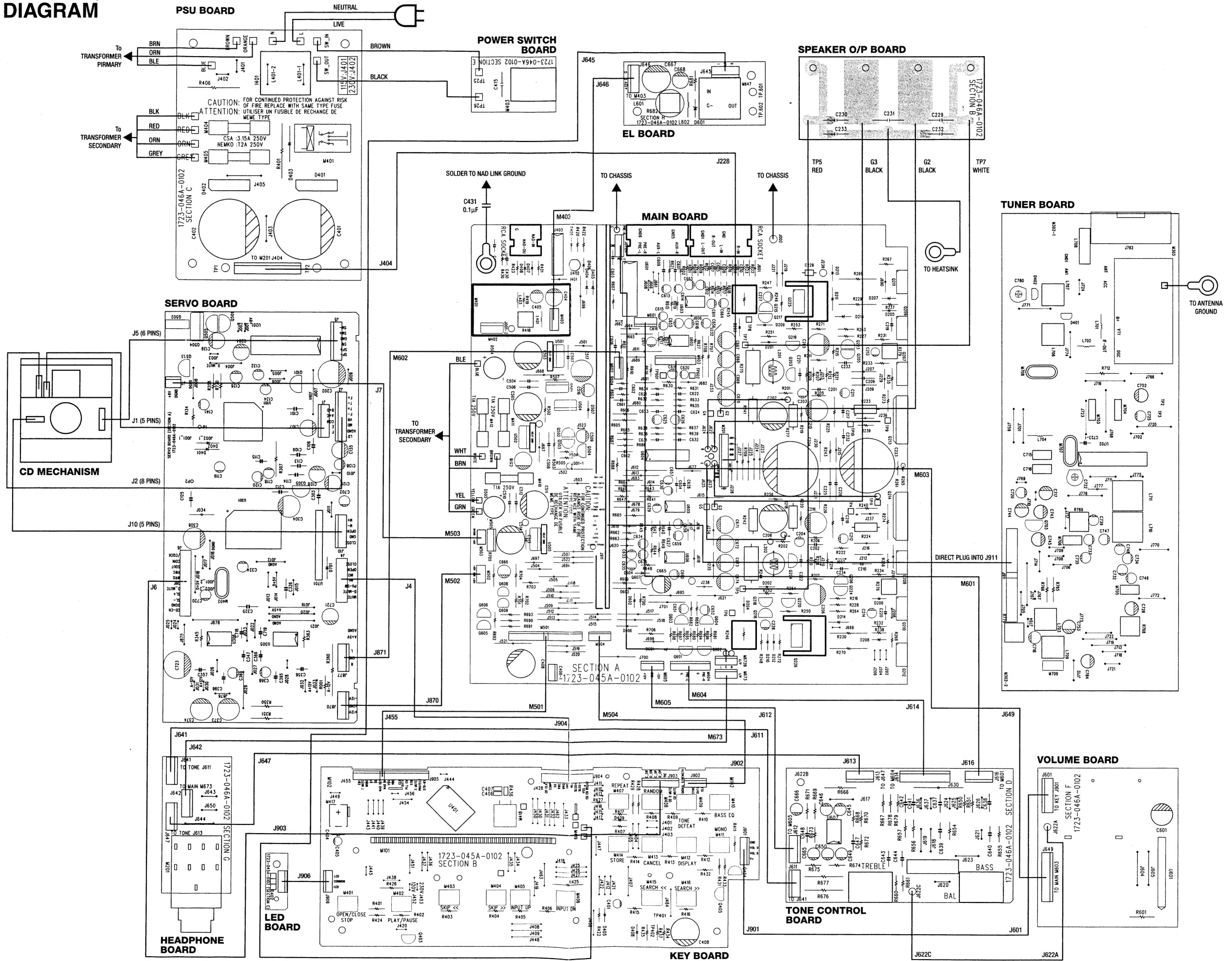


Figure No. 2.

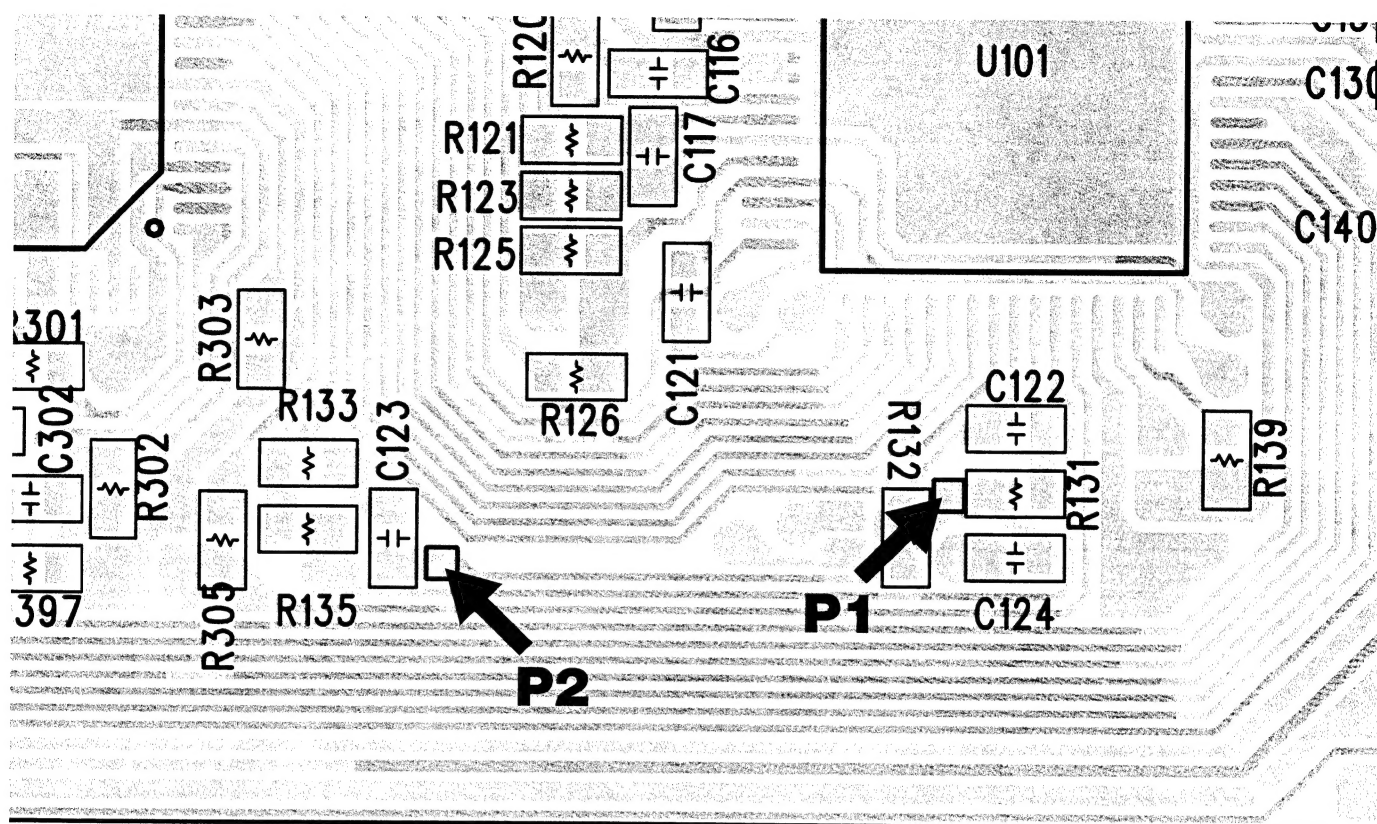
BLOCK DIAGRAM



## WIRING DIAGRAM



## RF PATTERN TESTING



## SERVO BOARD TESTING POINTS DIAGRAM

## TESTING PROCEDURE

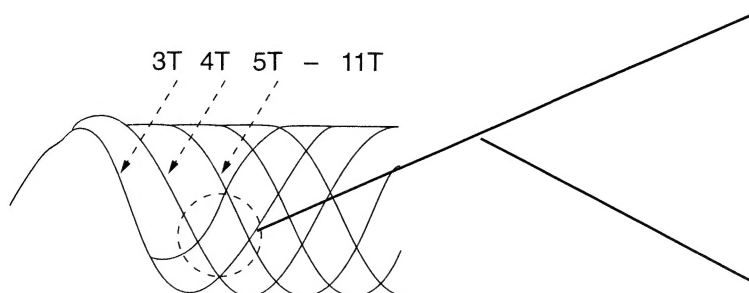
- (1) Load the test disc and set the unit into PLAY mode.
- (2) Connect the ground pin of scope to the solder pad of P1 and signal pin of scope to the solder pad of P2.

Scope setting:

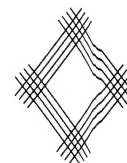
Coupling	:	AC.
Vertical sensitivity	:	0.2 V/div.
Horizontal time base	:	0.5 μS/div.

- (3) Observe the waveform is 2.4V p-p +/- 5% and the eye pattern is at its best shape (see **FIG. 1**).

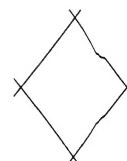
**FIG. 1 (a)**



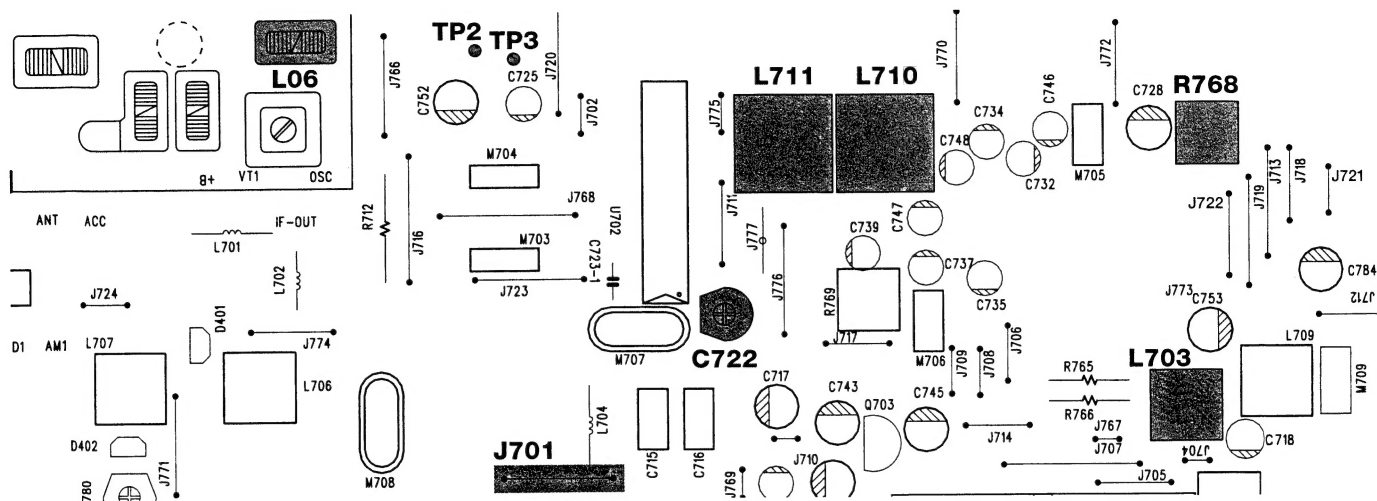
**FIG. 1 (b) Poor eye pattern**



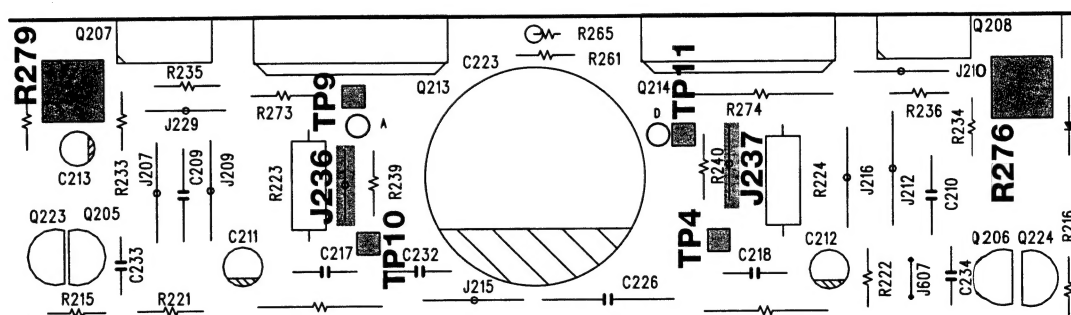
**FIG. 1 (c) Good eye pattern**



## 1. TUNER



## 2. IDLE CURRENT



The diagram illustrates the test setup for a radio receiver, divided into three main functional areas:

- Input Generators (Top):**
  - STEREO MODULATOR:** Labeled "FOR FM STEREO", it provides a stereo signal to the "LEFT" and "RIGHT" inputs of the Unit Under Test.
  - SIGNAL GENERATOR:** Provides a signal to the "TUNER OUT" input of the Unit Under Test.
  - RDS GENERATOR:** Provides a signal to the "ANTENNA TERMINAL" of the Unit Under Test.
- Intermediate Components (Middle):**
  - DUMMY ANTENNA:** Labeled "FOR FM", it is connected to the "ANTENNA TERMINAL" of the Unit Under Test and the "RDS GENERATOR".
- Output-Connected Instruments (Bottom):**
  - AC VOL TMETER:** Measures the output signal. Its "IN" terminal is connected to the "LEFT" output of the Unit Under Test, and its "OUT" terminal is connected to the "RIGHT" output.
  - OSCILLOSCOPE:** Connected to the "LEFT" output of the Unit Under Test to observe the waveform.
  - DISTORTION METER:** Connected to the "LEFT" output of the Unit Under Test to measure signal distortion.
  - IHF FILTER L/R SWITCH:** A switch that can route the signal from either the "LEFT" or "RIGHT" output of the Unit Under Test to the "IN" terminal of the AC VOL TMETER.

# ALIGNMENT PROCEDURES

## **FM SECTION**

AF MODULATION: 1 kHz, 40 kHz DEVIATION, MONO MODE

STORE FREQUENCY: 98 MHz, 87.5 MHz, 108 MHz

RF LEVEL: 75-ohm IMPEDANCE, OPEN CIRCUIT

## **OSCILLATION TUNING VOLTAGE**

Connect DVM between J701 & GND.

Tune to 87.5 MHz.

Adjust L06 (OSC Coil) to read  $1.5 \pm 0.5V$  on DVM.

Tune to 108 MHz.

Adjust L06 (OSC Coil) to read  $7.0 \pm 0.5V$  on DVM.

## **TUNER SENSITIVITY & SYNTHESIZER I.F. TRACKING**

Connect DVM across TP2 & TP3.

Apply 98 MHz, 60 dB $\mu$  to antenna input.

Tune to 98 MHz.

Adjust L703 to read  $0 \pm 200$  mV

Set RF level to 16 dB $\mu$ .

Adjust C722 for minimum distortion.

Set RF level to 36 dB $\mu$ .

Adjust C722 to read  $0 \pm 100$  mV

Set RF level to 15 dB $\mu$ .

Check distortion to read <3%.

Repeat until no further improvement.

## **STEREO SEPARATION PILOT SUPPRESSION**

FM Stereo: 98MHz, 40kHz devi., 60dB $\mu$ V, Pilot signal 19kHz, 7.5kHz devi.

Connect DVM across TP2 & TP3.

Turn R768 fully clockwise.

Turn off the modulating signal while leaving the pilot tone.

Adjust L710 and L711 for minimum outputs on Left and Right channel respectively.

Set modulated signal to Left only.

Adjust C722 for minimum output at Right channel.

Adjust L703 to read  $0 \pm 100$  mV.

Repeat until no further improvement.

Set modulated signal to Right only.

Check for minimum output at Left channel. Readjust C722 and L703 if necessary.



## **SD LEVEL, SD BANDWIDTH & AUTO-SEARCH LEVEL**

Set stereo modulator to L = R mode.

Apply 98 MHz, 22 dBμ to antenna input.

Tune to 98MHz, Stereo Mode.

Adjust R768 until Center Tune Icon and Stereo Icon just lights.

Deviate RF frequency about 98MHz from -20kHz to +20kHz at a step of 1kHz.

Check SD only lights within the given frequency range.

Set input level to 28 dBμ.

Check if auto-search works and check tuning accuracy. Readjust R768 if necessary.

## **RDS SECTION**

RDS Generator - RDS Level : 5.6%, Output : 6.4Vp-p, Phase : 90 degree,  
Drop Off : 100%, Radio Text.

Signal Generator - 98MHz, 40kHz devi., 26dBμ.

## **RDS DECODER**

Check RDS icon lights and station name on the display.

Press display key once.

Check Radio Text scrolls across the display.

## **AMPLIFIER ADJUSTMENT**

### **Idle Current**

Remove solder link in between TP9 and TP10, or cut J236.

Connect DC millivoltmeter at TP9 and TP10 (i.e. across R239, 1-ohm resistor).

Adjust R279 for 25-35mV reading on voltmeter.

Remove solder link in between TP4 and TP11, or cut J237.

Connect DC millivoltmeter at TP4 and TP11 (i.e. across R240, 1-ohm resistor).

Adjust R276 for 25-35 mV reading on voltmeter.

Leave power on for at least 5 minutes, and check for idle current.

Replace solder link between TP9 and TP10 for left channel, and TP4 and TP11 for right channel, or reconnect J236 and J237.



## IMPORTANT NOTES

### INSTRUCTION FOR HANDLING OPTICAL SYSTEM BLOCK PICK-UP

Electrostatic breakdown of the laser diode in the optical system block may occur due to a potential difference caused by electrostatic charge accumulated on clothing, human body, etc. A ground must be provided as follows to prevent any electrostatic charge during unpacking or repair work.

#### 1. Ground for Human Body

Be sure to wear a ground band (1M ohm) that is properly grounded to remove any static electricity that may be charged on the body.

#### 2. Ground for Work Bench

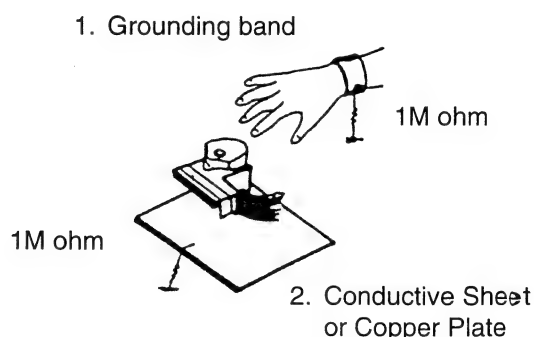
Be sure to place a conductive sheet (1M ohm) or copper plate with proper grounding on the work bench or other surface on which the pick-up is to be placed.

3. Because the static electricity charge on the clothing does not discharge through the body grounding band, do not let clothing to get in contact with the pick-up unit.

#### INCORRECT



#### CORRECT



**NOTE:** Laser diodes are so susceptible to damage from static electricity that even if a static discharge does not ruin the diode, it can shorten its life or cause it to work improperly.

### PRECAUTIONS FOR CHECKING BEAM EMISSION

The laser beam of this unit is focused on the reflecting surface of the objective lens in the optical system block. Therefore, keep your eyes at least 12 inches (30 cm) away from the objective lens when the laser diode is **ON**.

(Operation Check Method for Laser Diode and Focus Search Function.)

When the **POWER** switch is turned **ON** after the chucking plate is removed, observe the objective lens and confirm that the following operations are performed properly.

(The optical system block should be at the lead-in area position when it is checked at this time.)

(1) The laser should be at the innermost position after the chucking plate is removed.

(2) The diffused light of the laser beam can be seen when the **POWER** switch is turned **ON**.

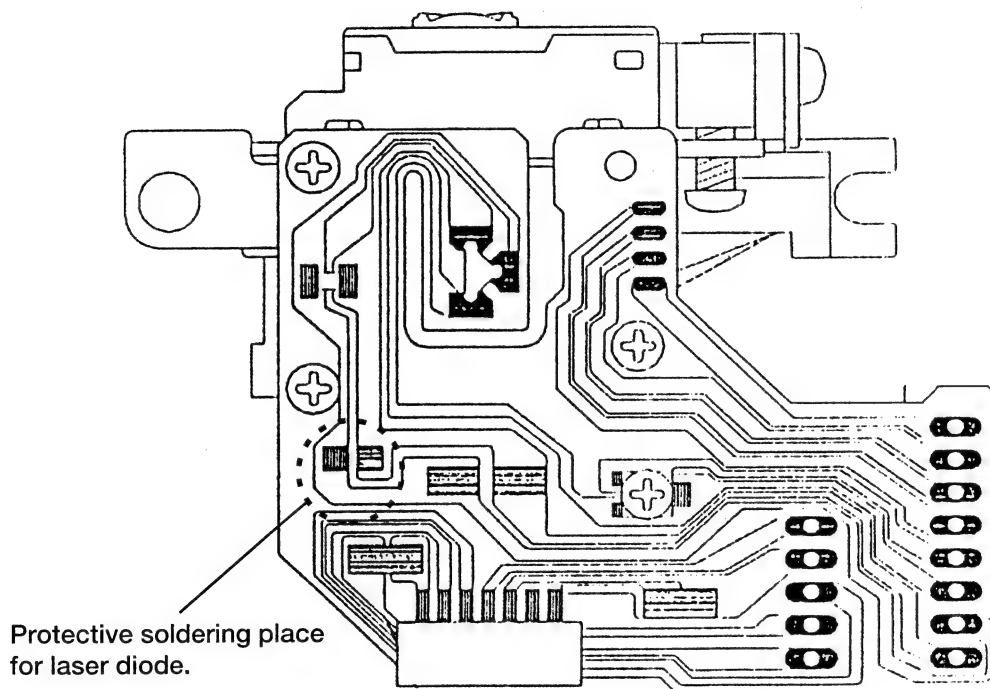
(3) Vertical (up and down) movement of the objective lens (2 or 3 times) will take place.

## PRECAUTIONS WHEN CHANGING LASER PICK-UP

When removing the pick-up assembly, short circuit the PCB tracks on the optical block as shown in the drawing in order to protect the pick-up before removal.

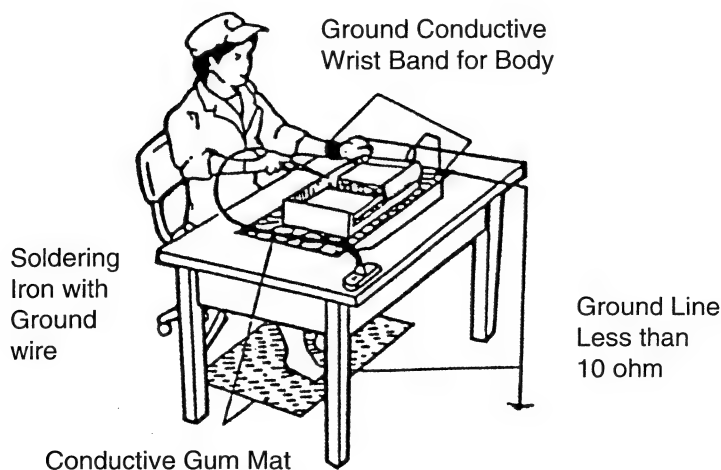
**NOTE:** Replacement pickup assemblies are supplied with the PCB pattern already protected.

DO NOT REMOVE THE SHORT CIRCUITS UNTIL YOU HAVE FINISHED FITTING THE PICK-UP.

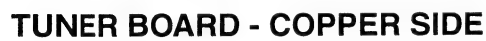


### Caution:

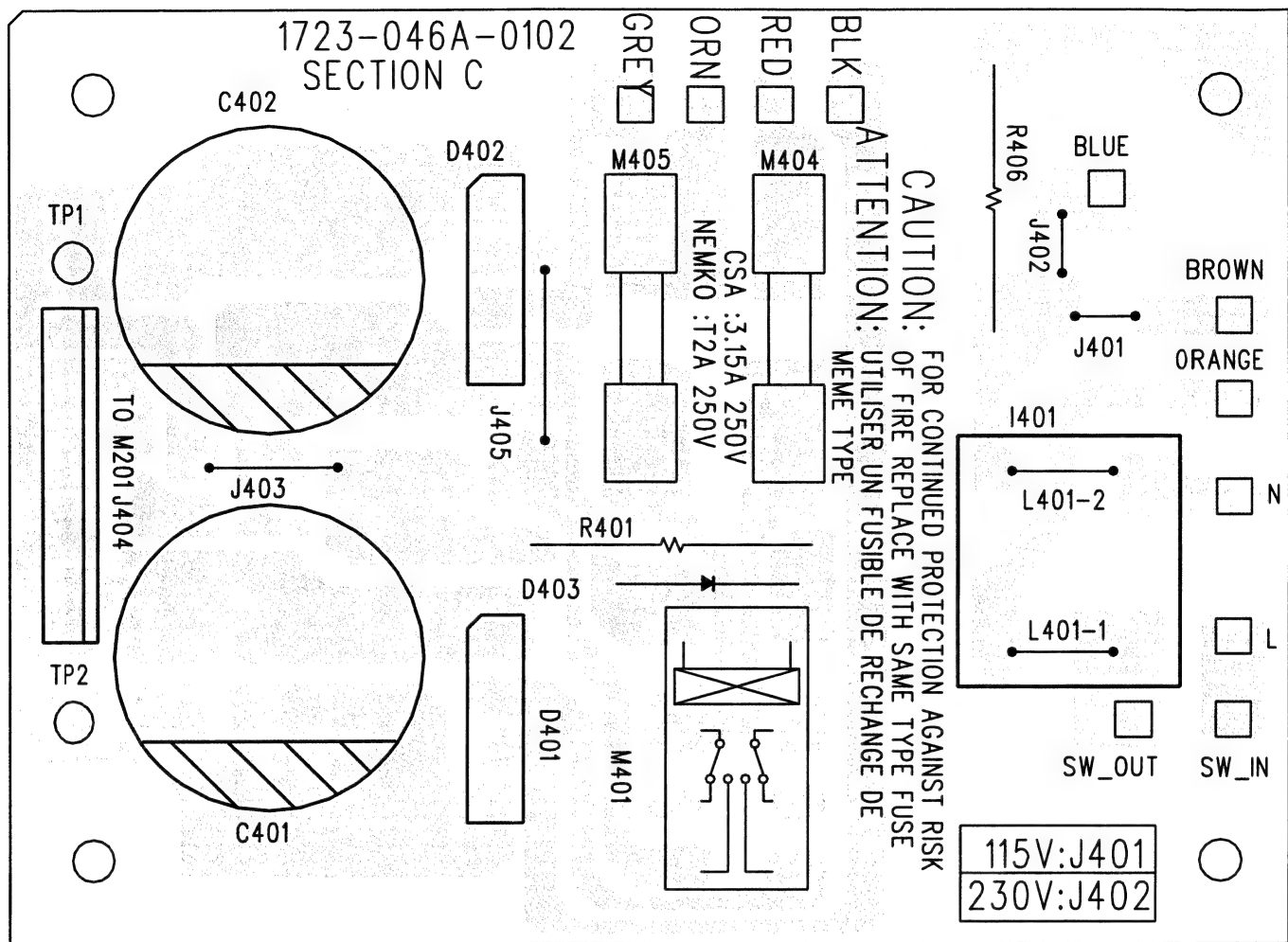
Laser diodes are extremely susceptible to damage from static electricity. Even if a static discharge does not ruin the diode, it can shorten its life or cause it to work improperly. When replacing the pick-up, use a conductive mat, a grounded soldering iron, and so on, to protect the laser diode from static damage.



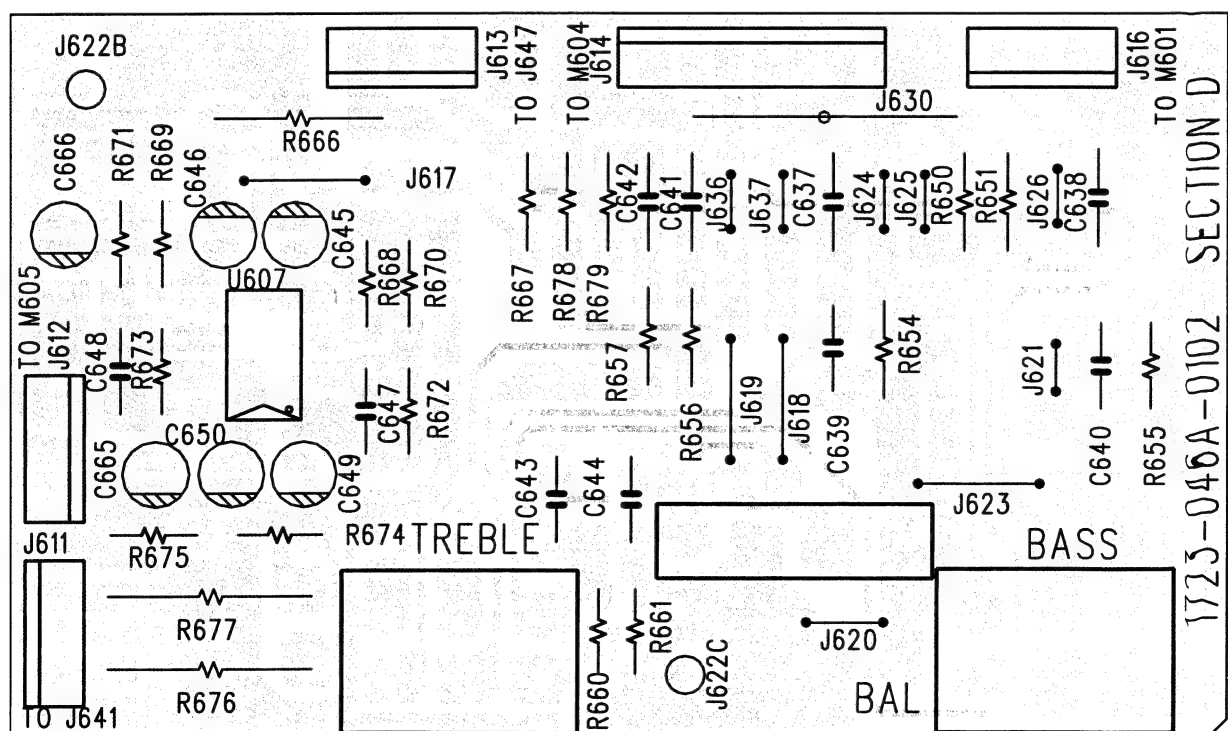
## TUNER BOARD - COMPONENT SIDE



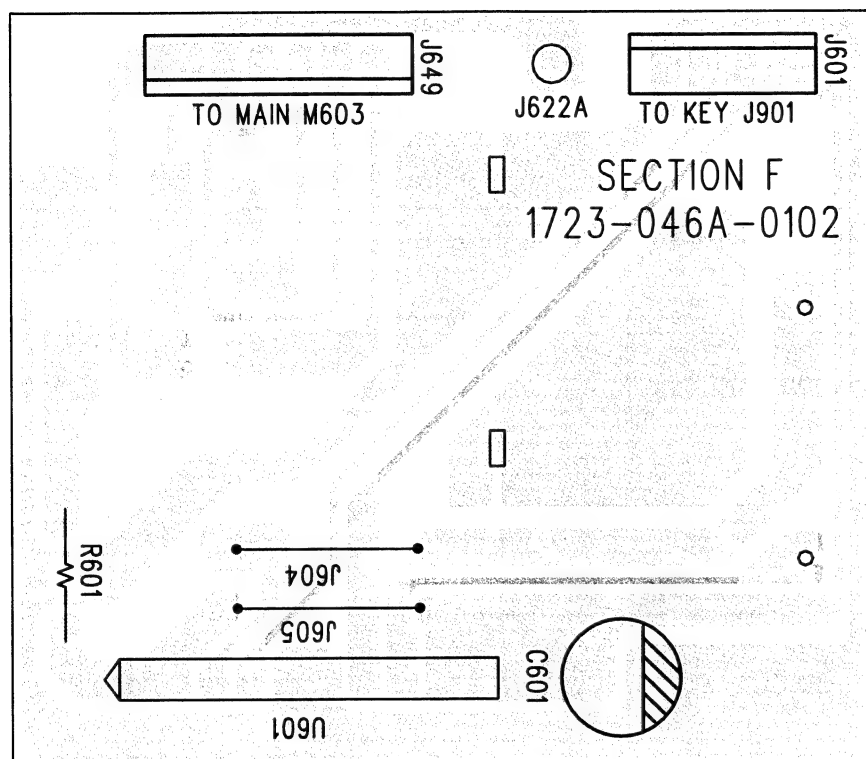
PSU BOARD



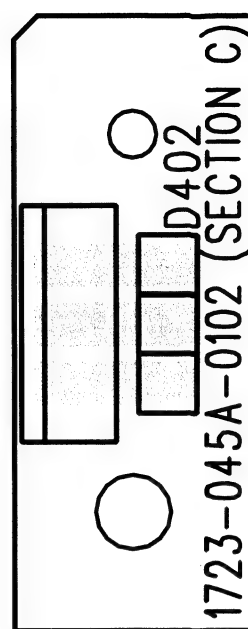
TONE CONTROL BOARD



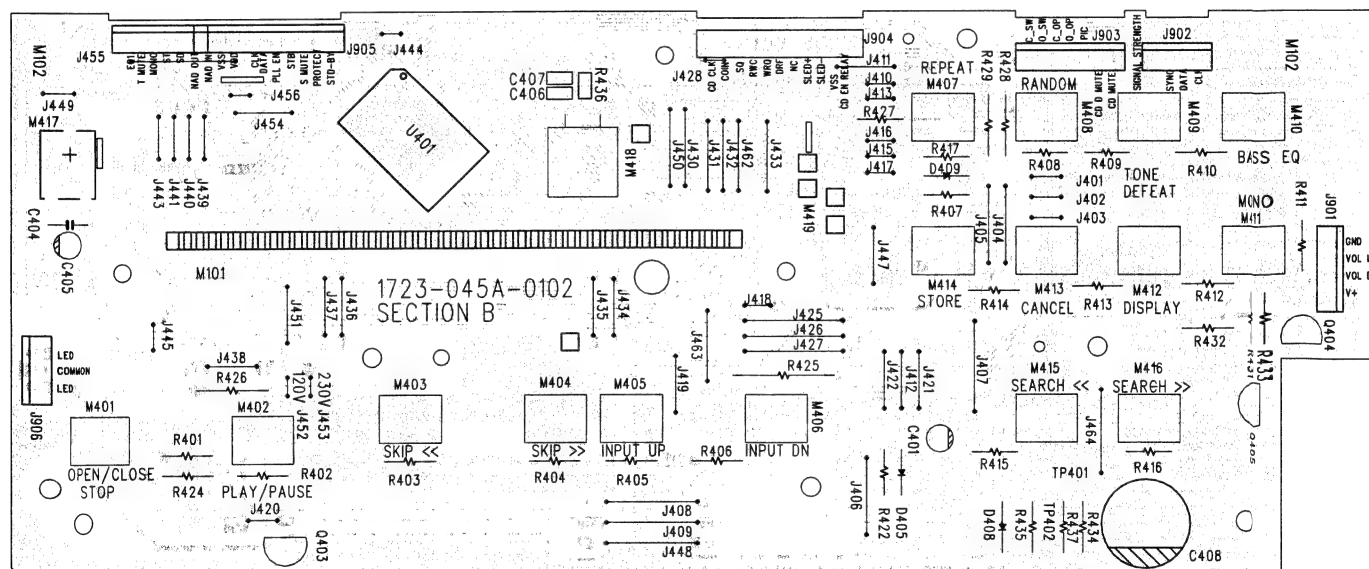
## VOLUME BOARD



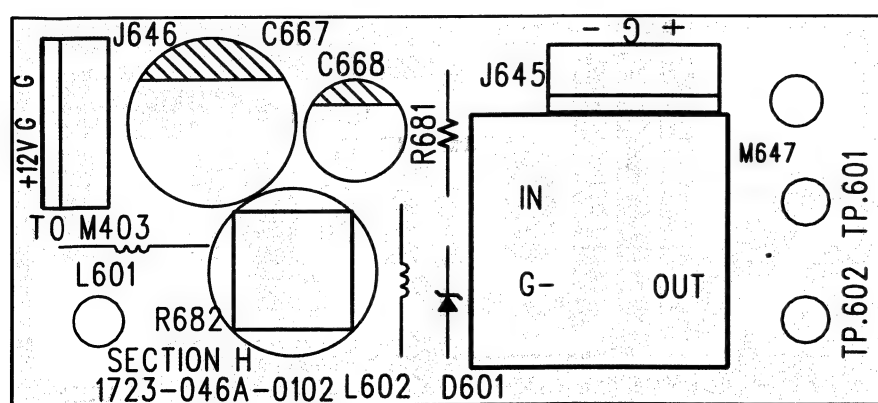
## LED BOARD



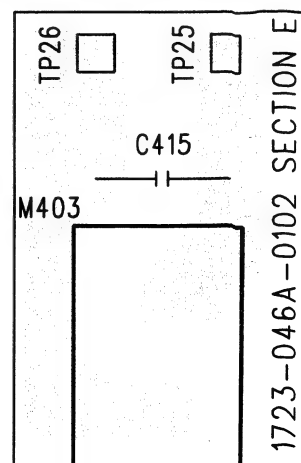
## KEYBOARD



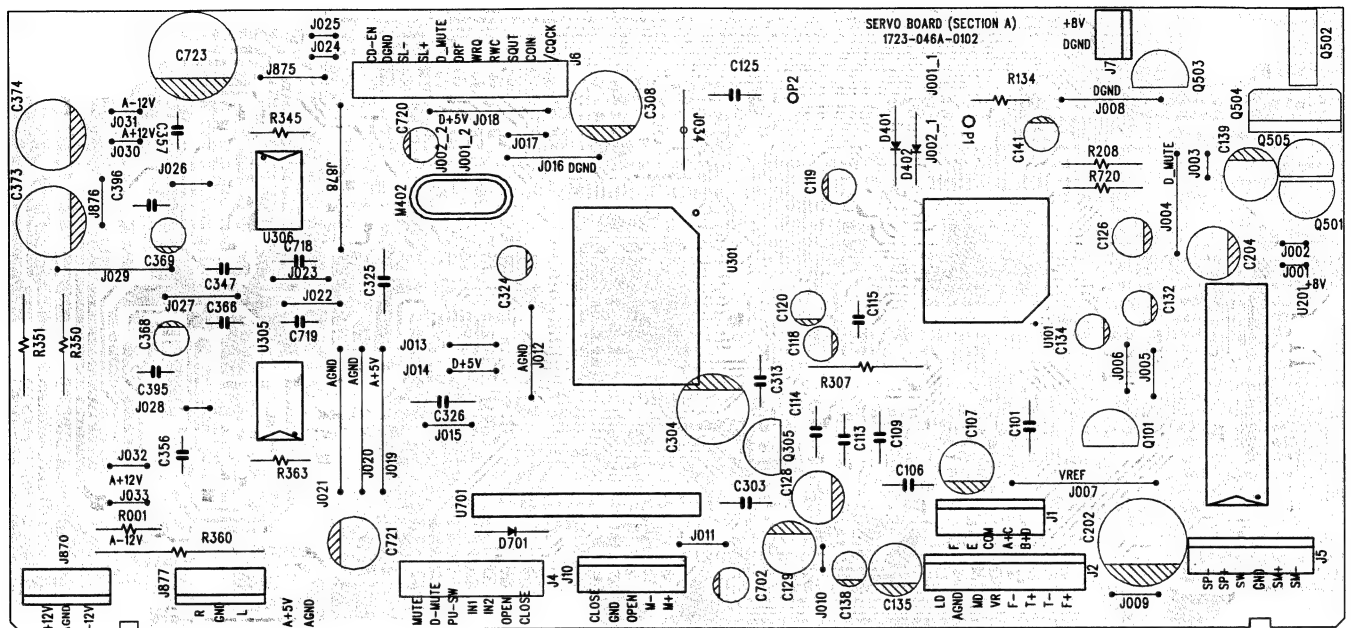
## EL BOARD



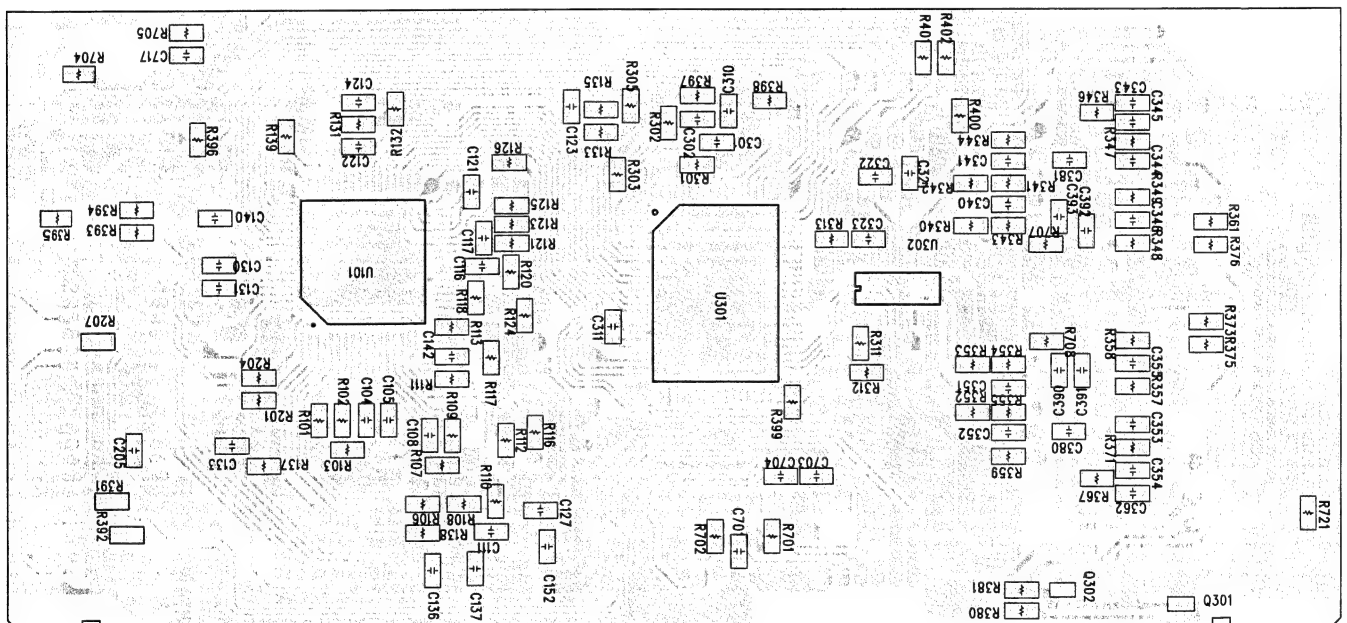
## POWER SWITCH BOARD



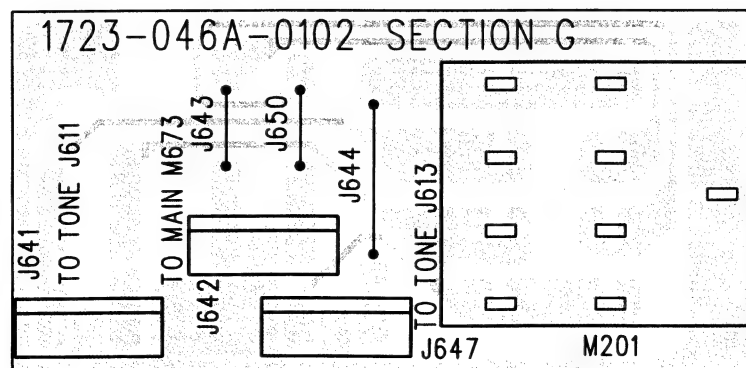
## SERVO BOARD - COMPONENT SIDE



## SERVO BOARD - COPPER SIDE

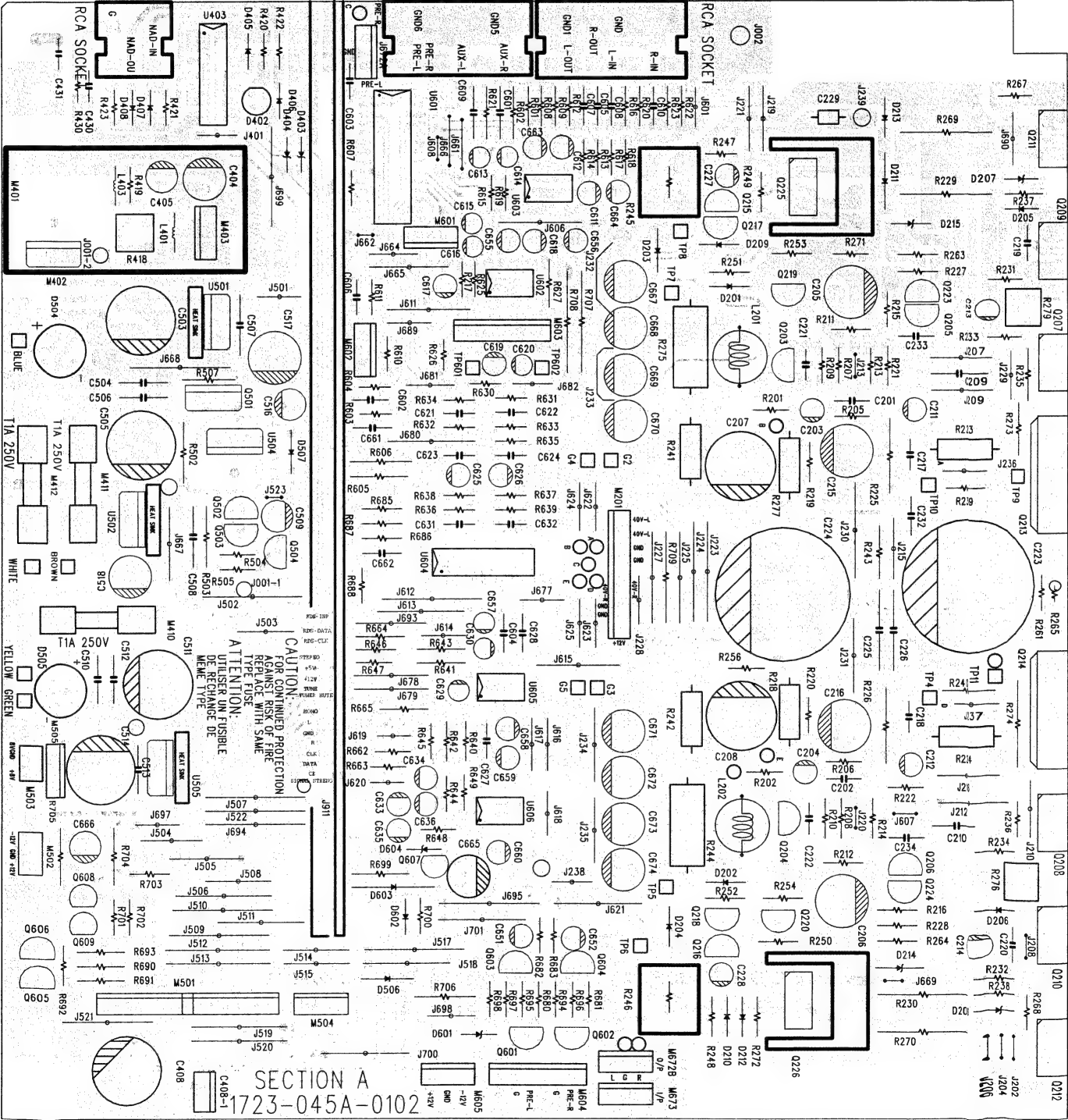


## HEADPHONE BOARD



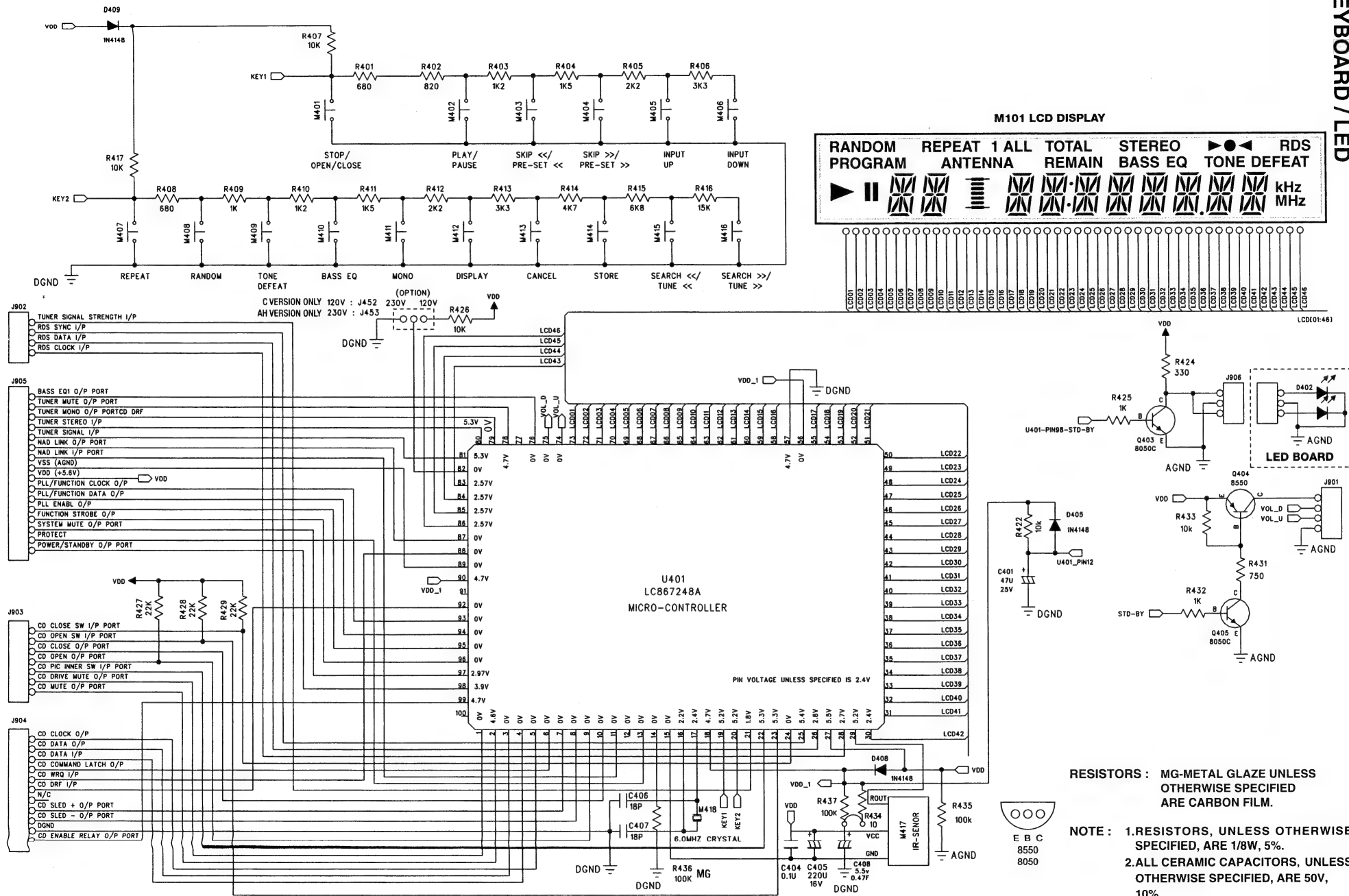


MAIN BOARD

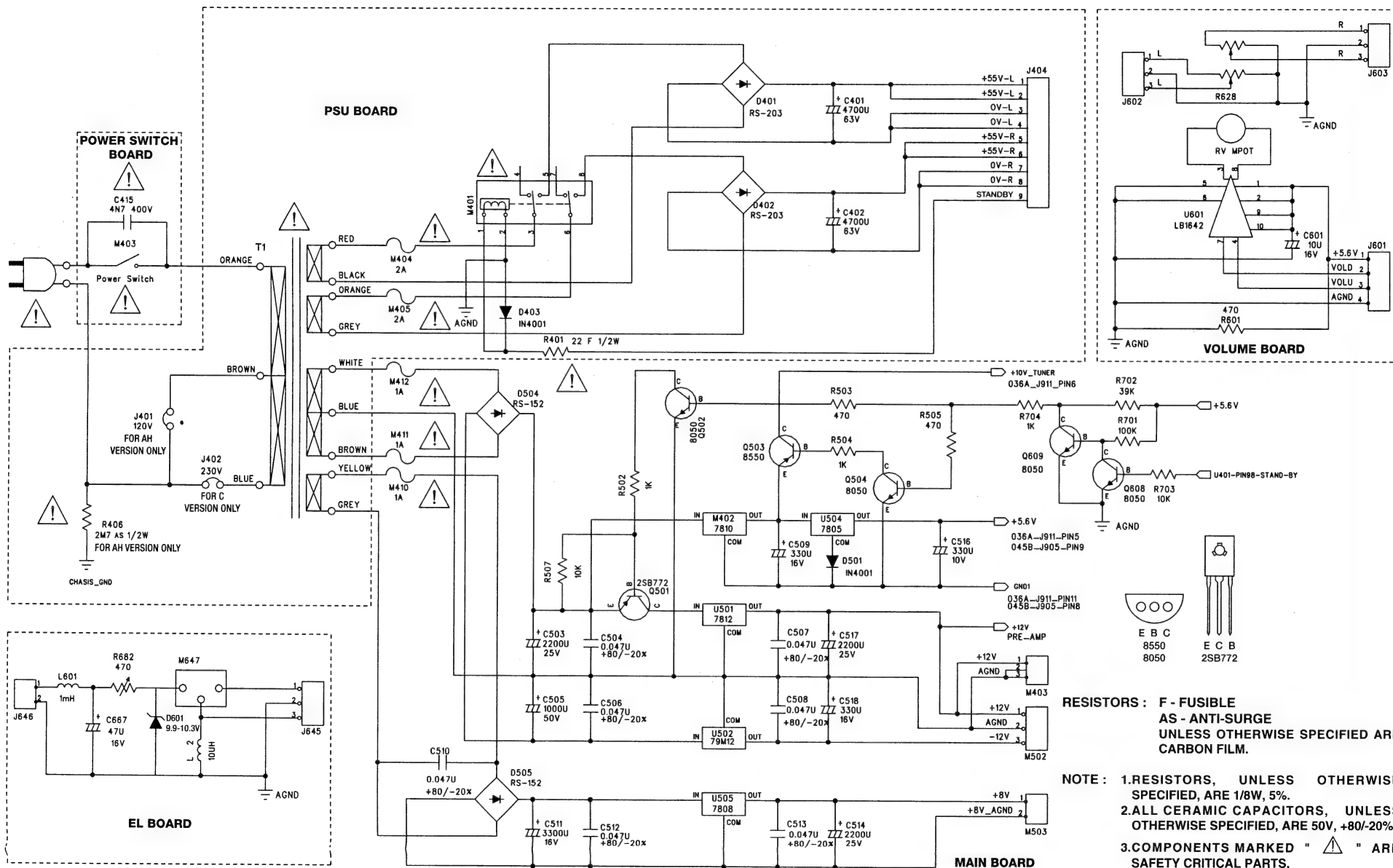


# SCHEMATIC DIAGRAM

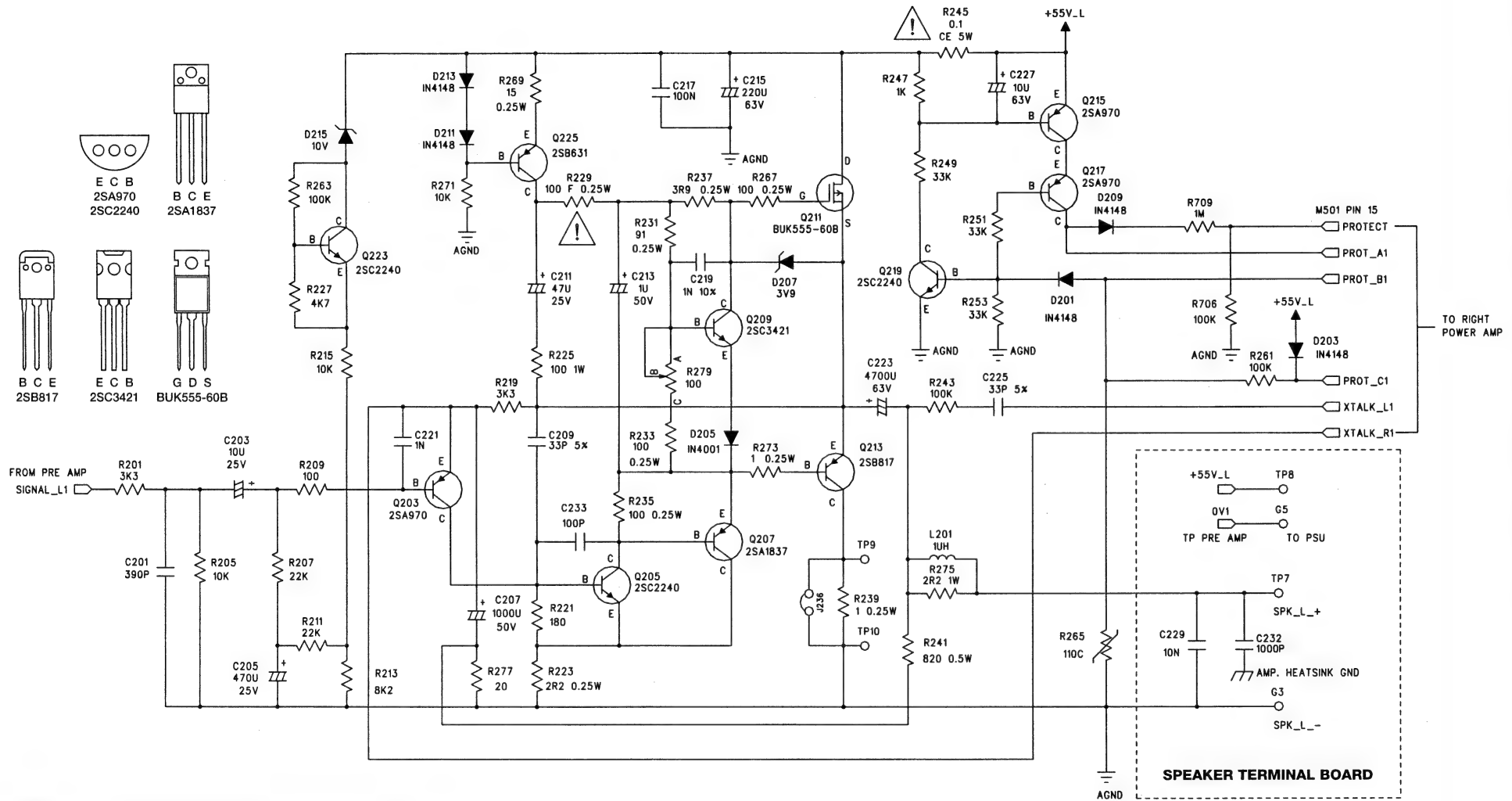
## KEYBOARD / LED








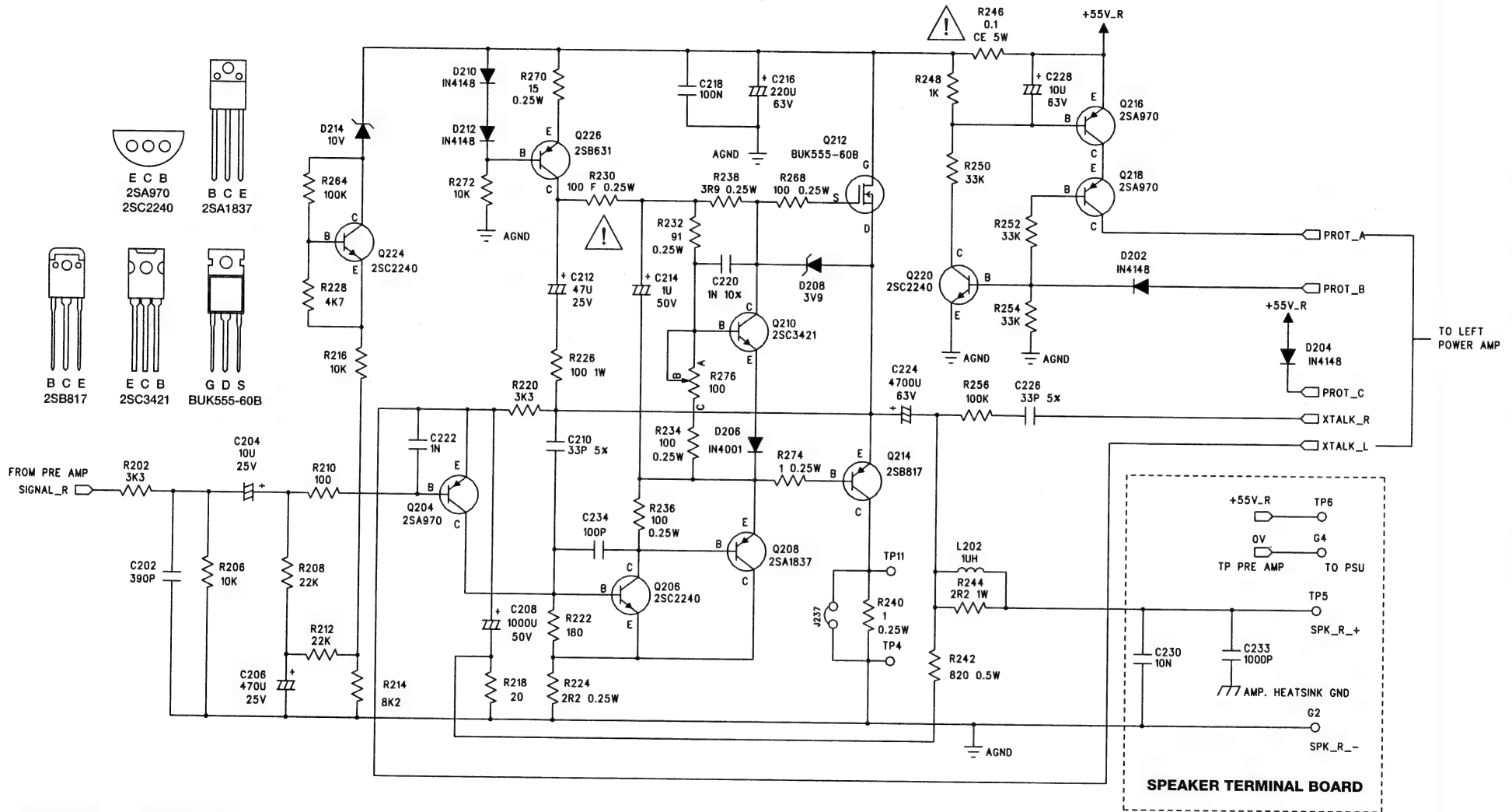
# MAIN BOARD - POWER AMPLIFIER LEFT CHANNEL SECTION




RESISTORS : CE - CERAMIC CASE  
UNLESS OTHERWISE SPECIFIED ARE CARBON FILM.

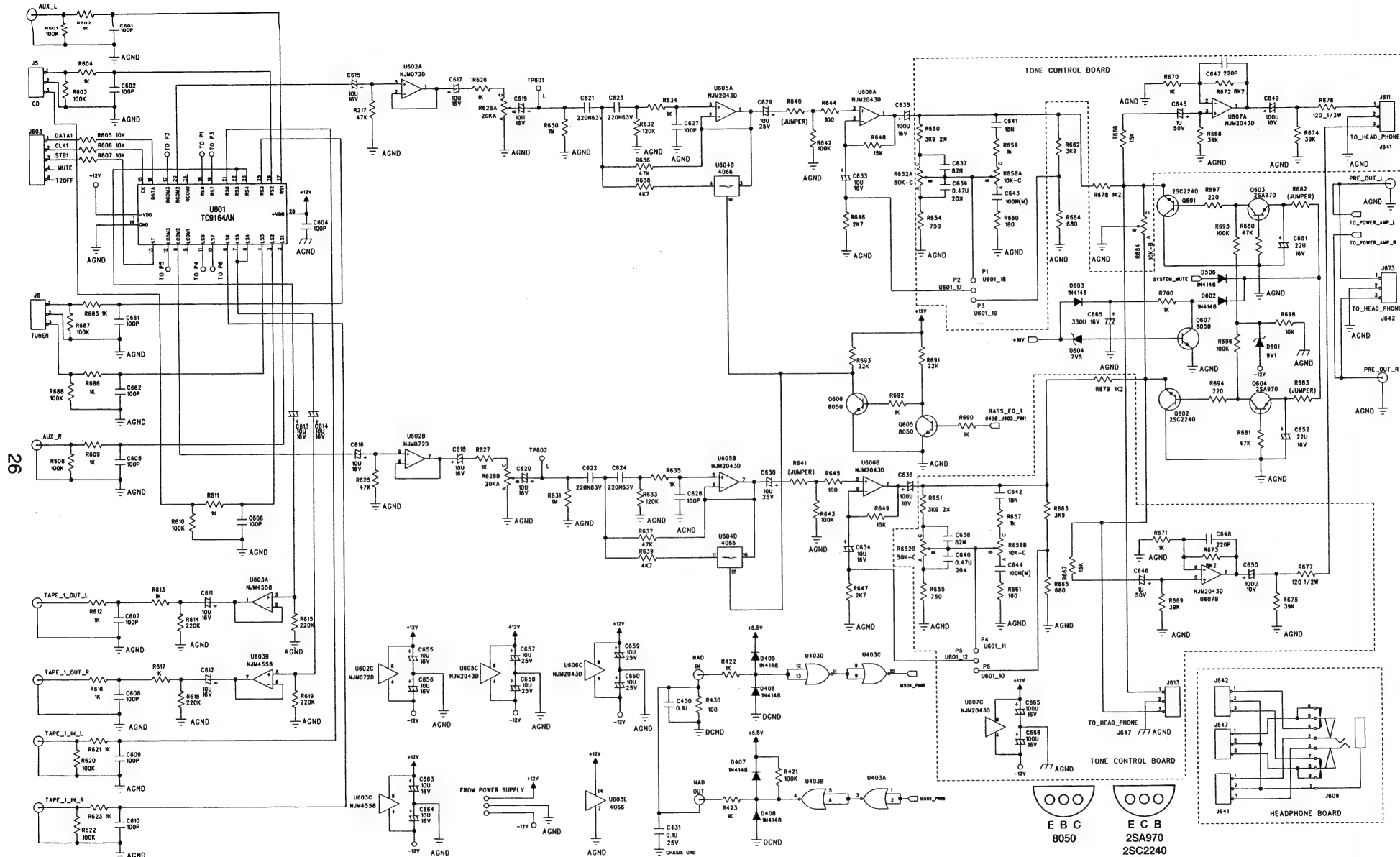
NOTE : 1.RESISTORS, UNLESS OTHERWISE SPECIFIED, ARE 1/8W, 5%.  
2.ALL CERAMIC CAPACITORS, UNLESS OTHERWISE SPECIFIED, ARE 50V, 10%.  
3.COMPONENTS MARKED "  " ARE SAFETY CRITICAL PARTS.

# MAIN BOARD - POWER AMPLIFIER RIGHT CHANNEL SECTION



RESISTORS : CE - CERAMIC CASE  
UNLESS OTHERWISE SPECIFIED ARE CARBON FILM.

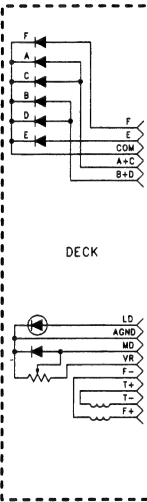
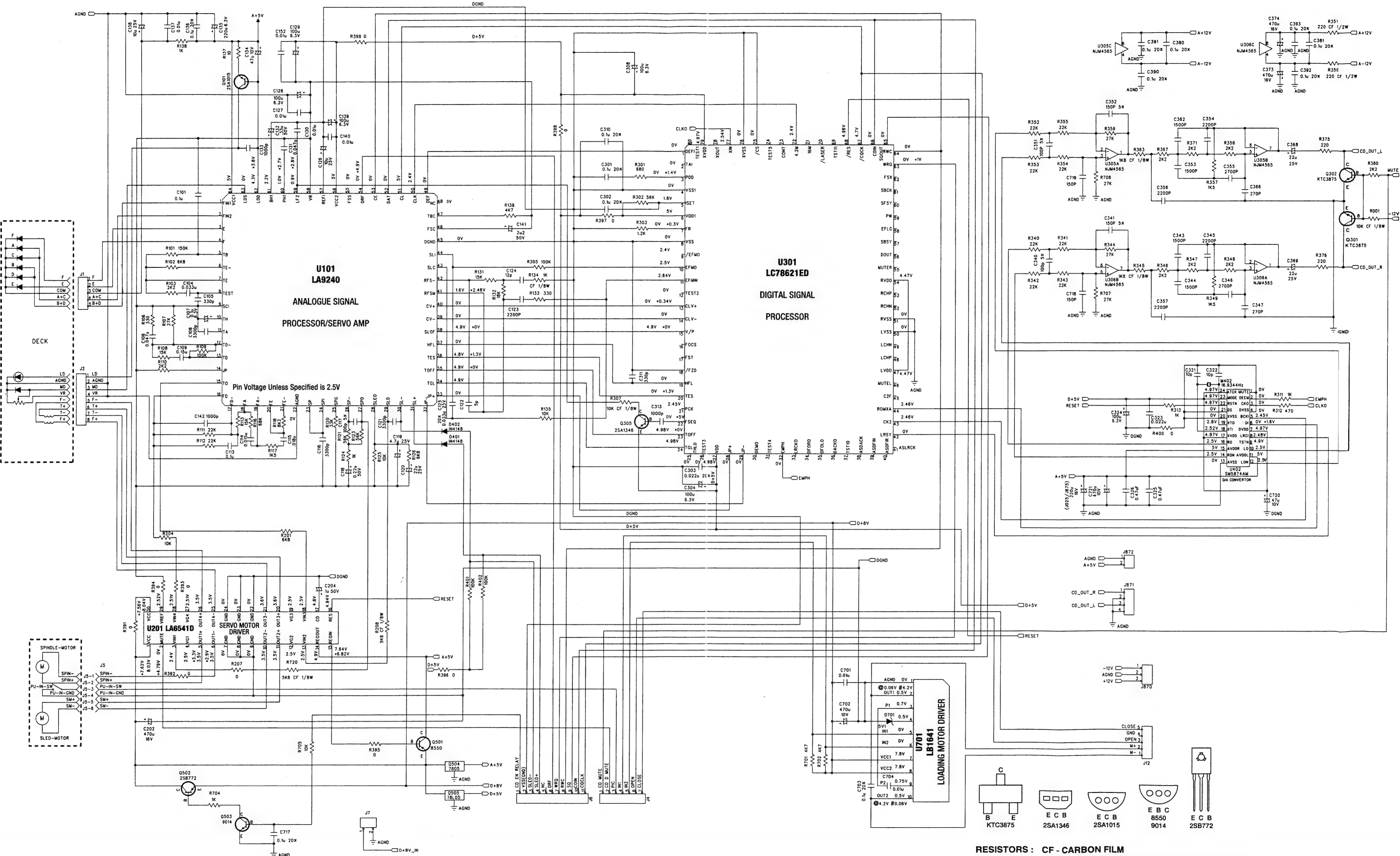
NOTE : 1.RESISTORS, UNLESS OTHERWISE SPECIFIED, ARE 1/8W, 5%.  
2.ALL CERAMIC CAPACITORS, UNLESS OTHERWISE SPECIFIED, ARE 50V, 10%.  
3.COMPONENTS MARKED "  " ARE SAFETY CRITICAL PARTS.



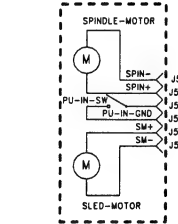
RESISTORS : UNLESS OTHERWISE SPECIFIED ARE CARBON FILM.

NOTE : 1.RESISTORS, UNLESS OTHERWISE SPECIFIED, ARE 1/8W, 5%.  
2.ALL CERAMIC CAPACITORS, UNLESS OTHERWISE SPECIFIED, ARE 50V, 10%.

CD SERVO



Pin Voltage Unless Specified is 2.5V



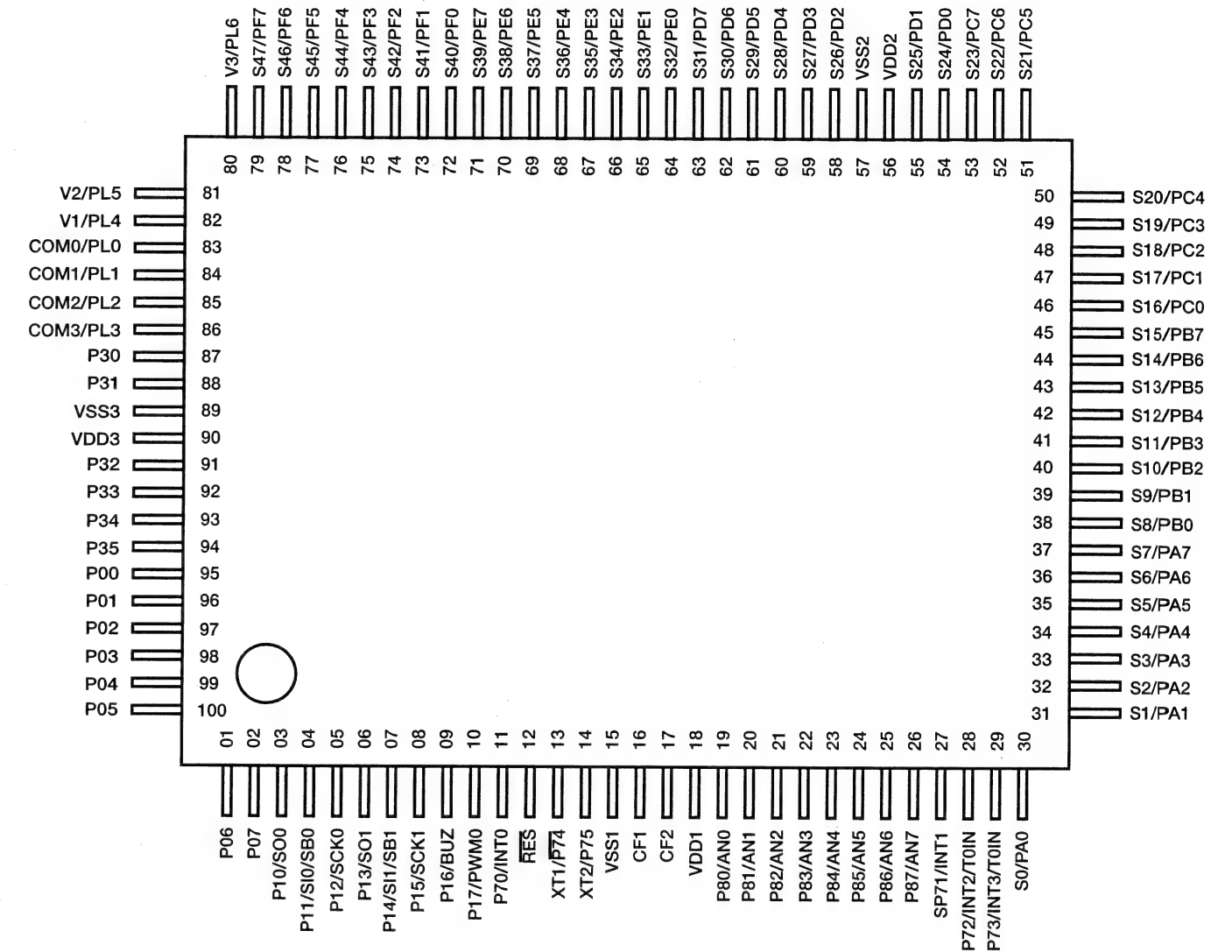
RESISTORS : CF - CARBON FILM  
UNLESS OTHERWISE SPECIFIED ARE METAL GLAZE.

NOTE : 1.RESISTORS, UNLESS OTHERWISE SPECIFIED, ARE 1/10W, 5%.  
2.ALL CERAMIC CAPACITORS, UNLESS OTHERWISE SPECIFIED, ARE 50V, 10%.  
3.VOLTAGE SPECIFIED ON THE IC'S PIN WHICH DO NOT HAS MARKING IS IN STP MODE,  
MARKED " \* " IS PLAY MODE, " # " IS TRAY OPEN MODE AND " @ " IS TRAY CLOSE MODE.

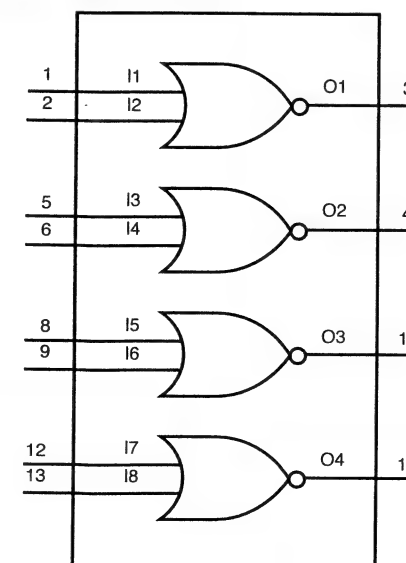
[illegible]

## IC BLOCK DIAGRAM

**U401: LC867248A**

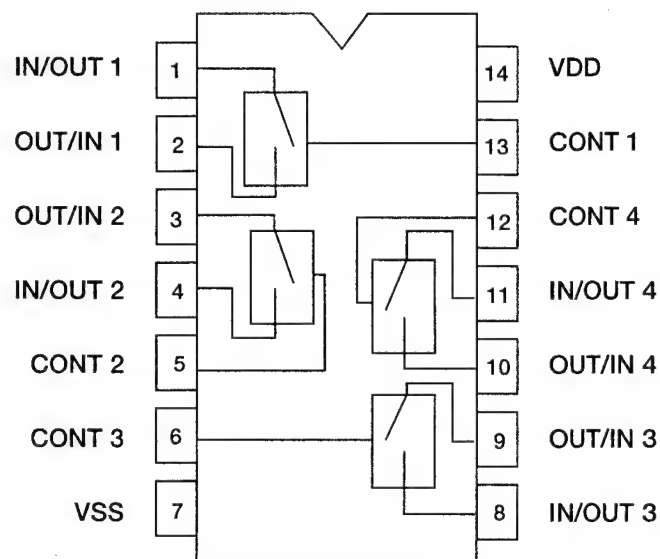
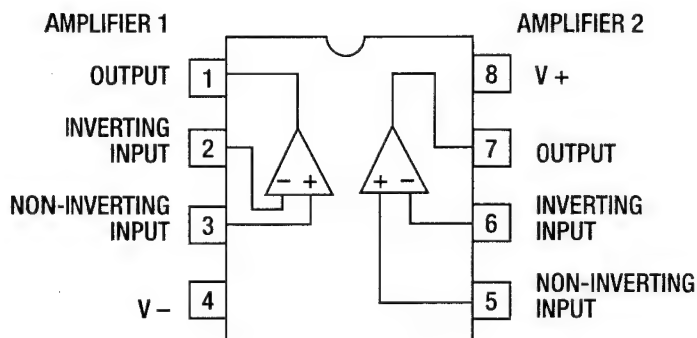


**U403: HCF4001BE**

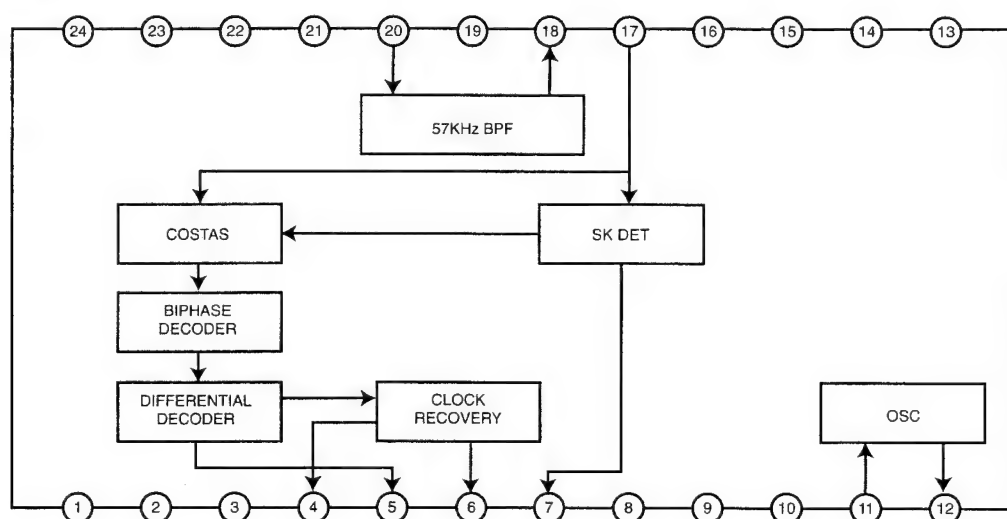


30

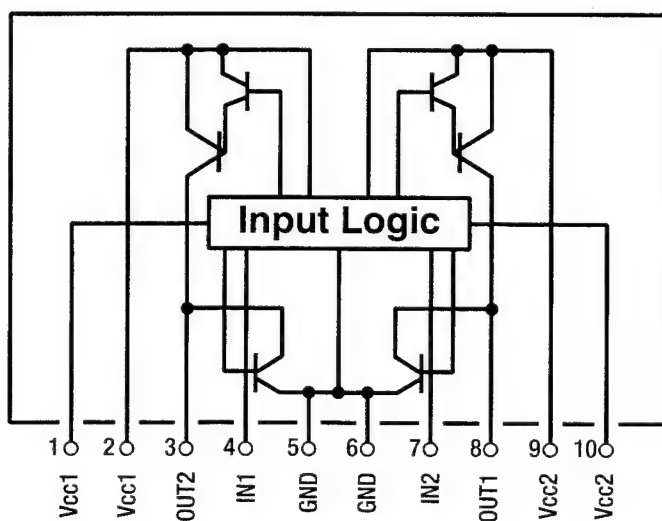
**U604: TC4066B**



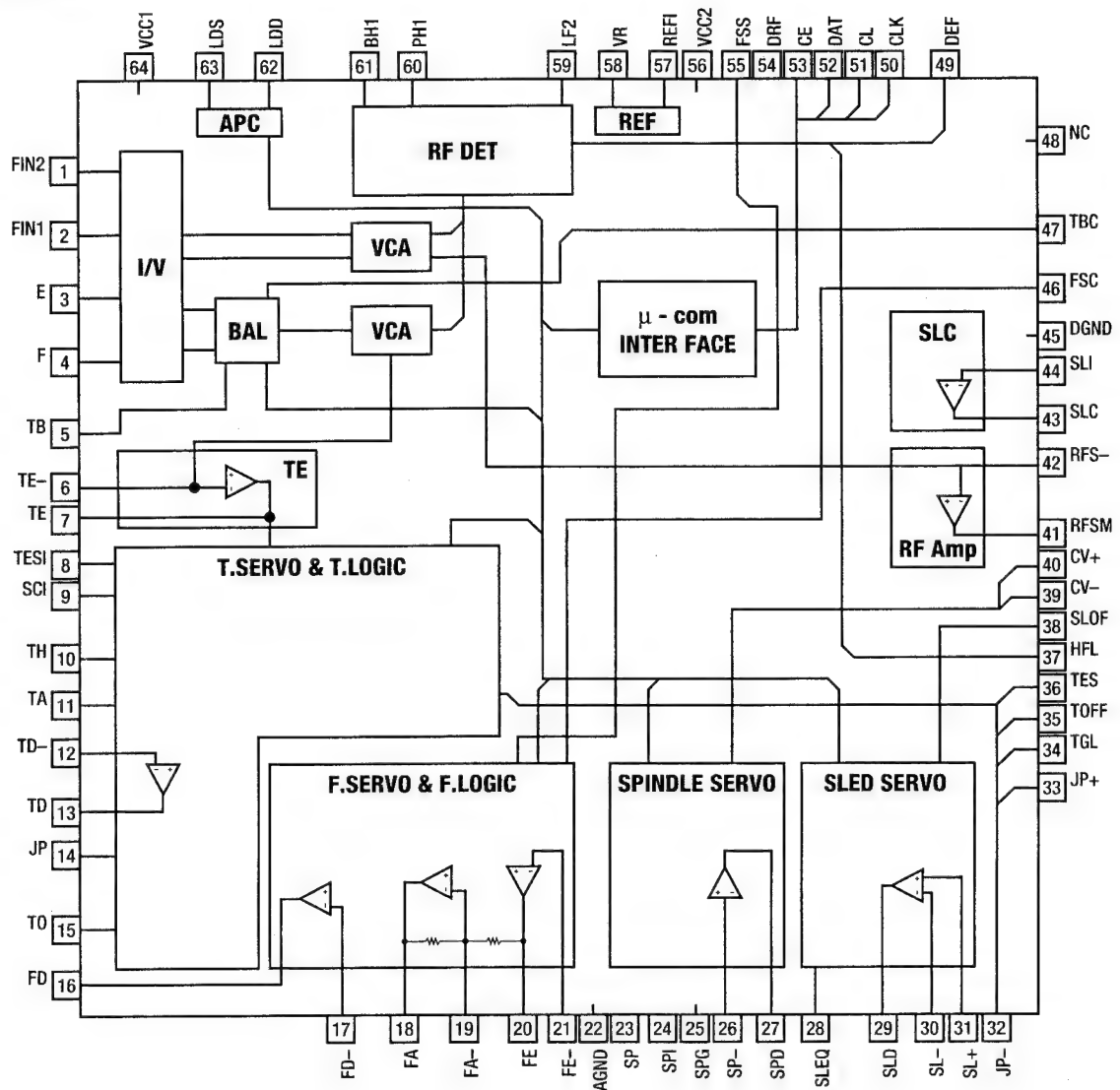
**U703:  $\mu$ PC2539**



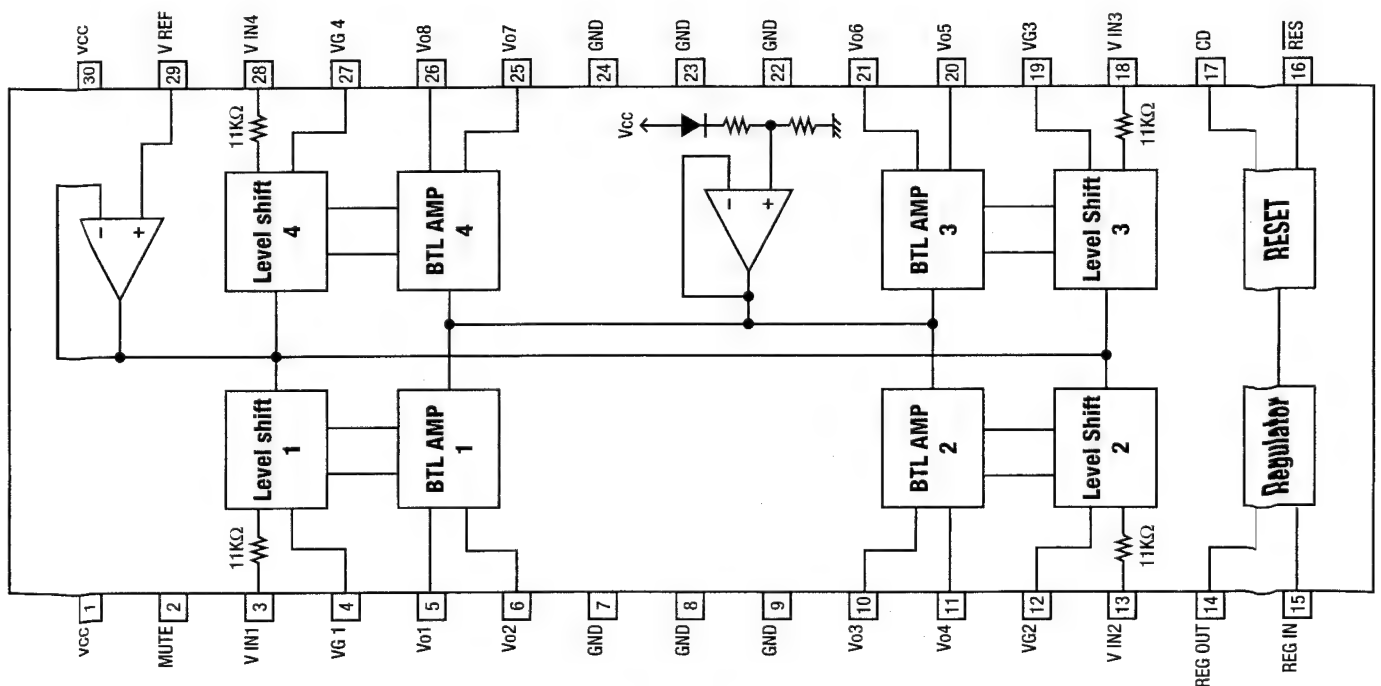
## U601: LB1642



# SERVO BOARD U101: LA9240

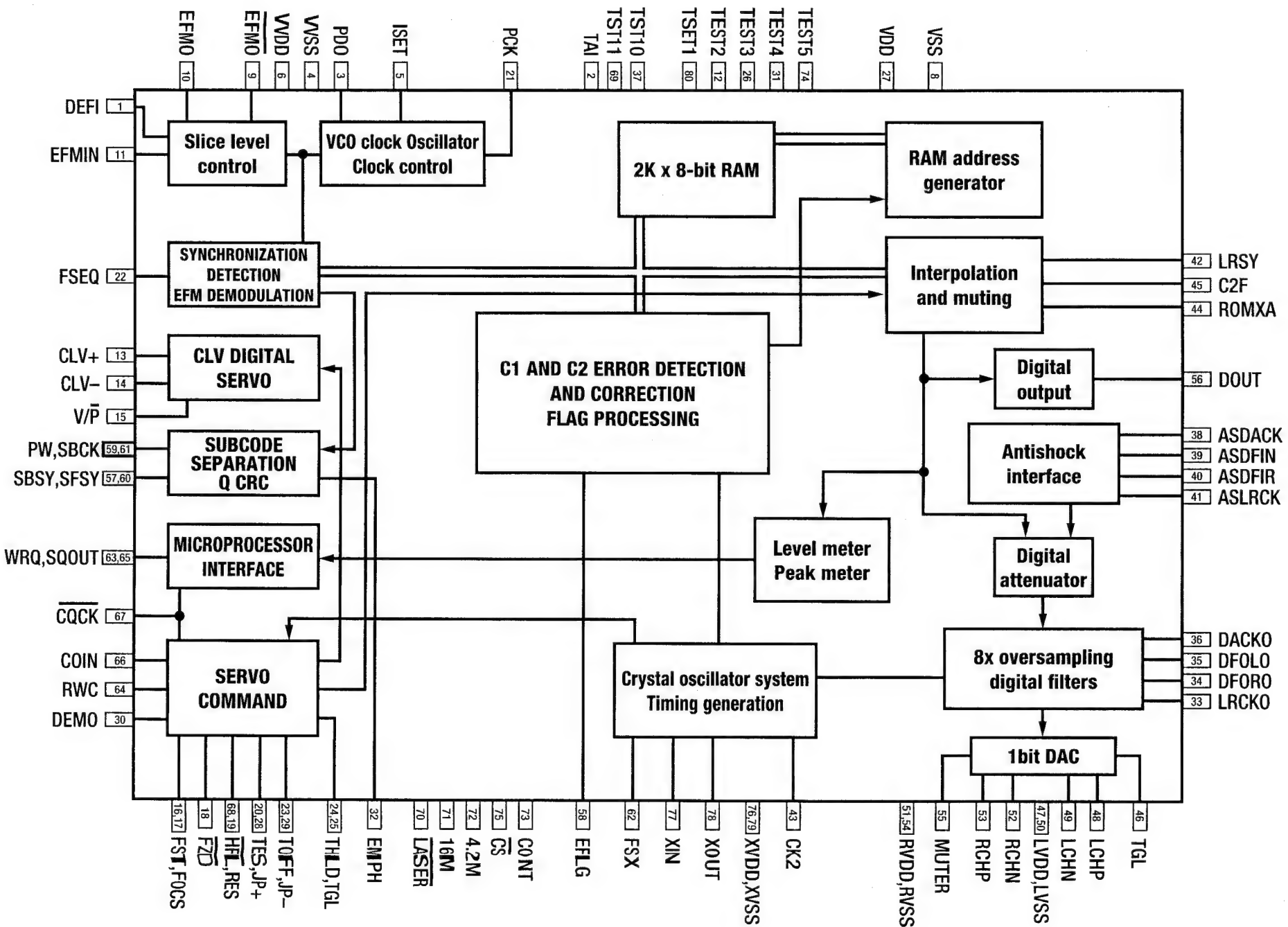


# U201: LA6541D

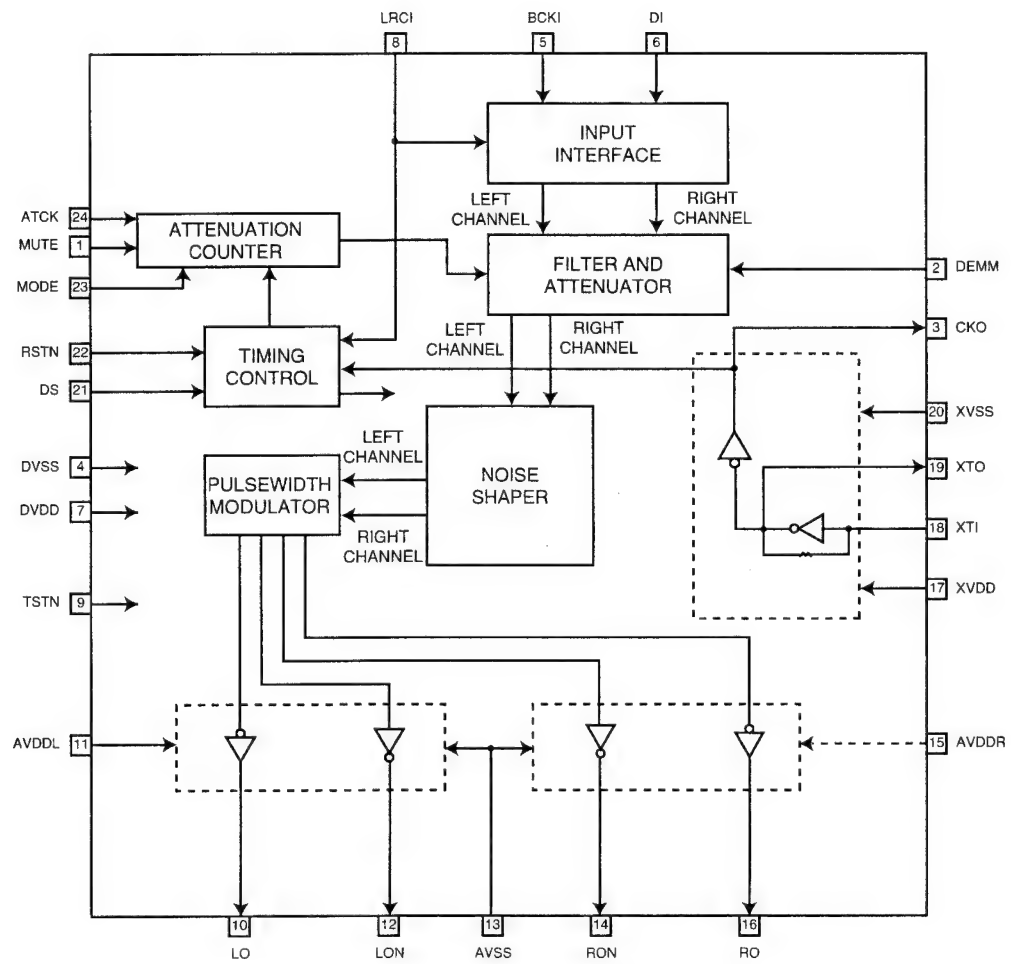




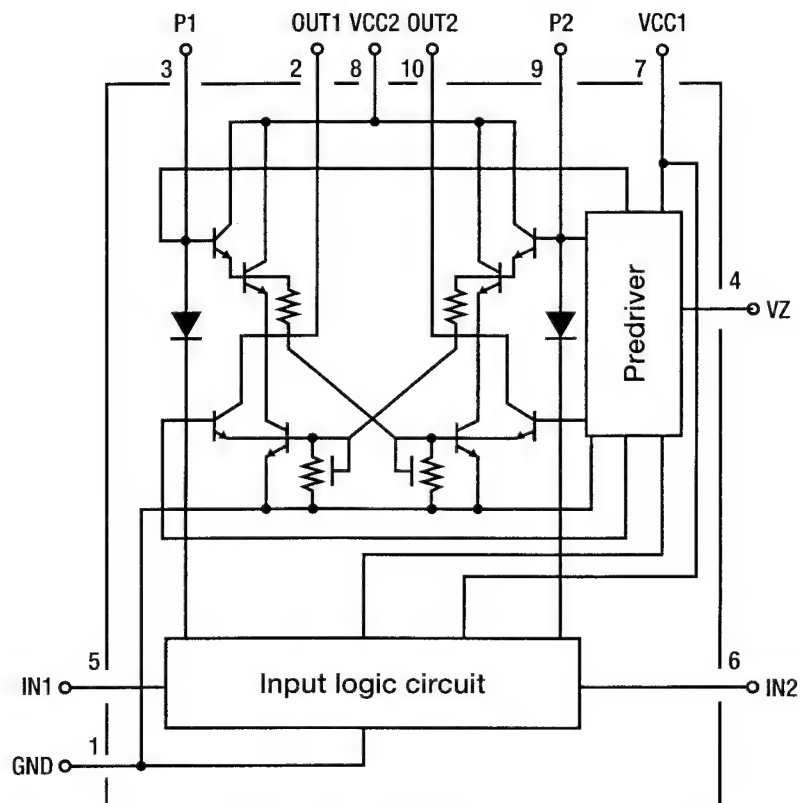
U301: LC78621E - Equivalent Circuit Block Diagram



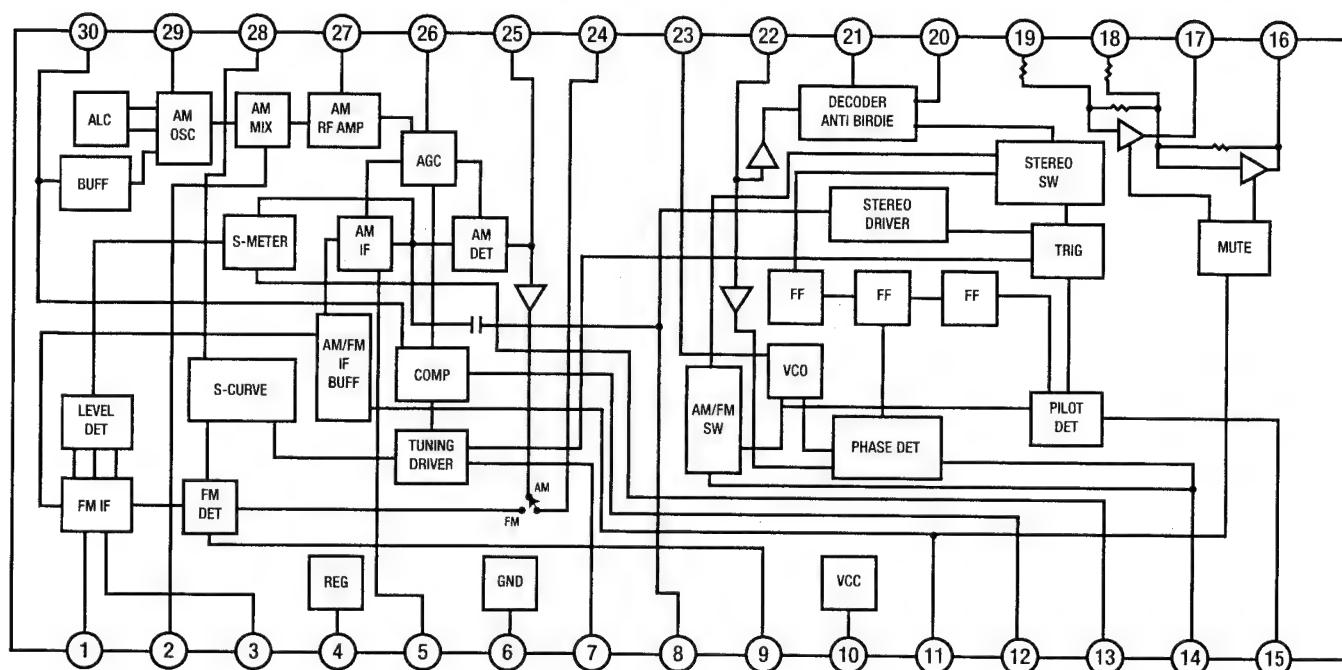
## U302: SM5874AM



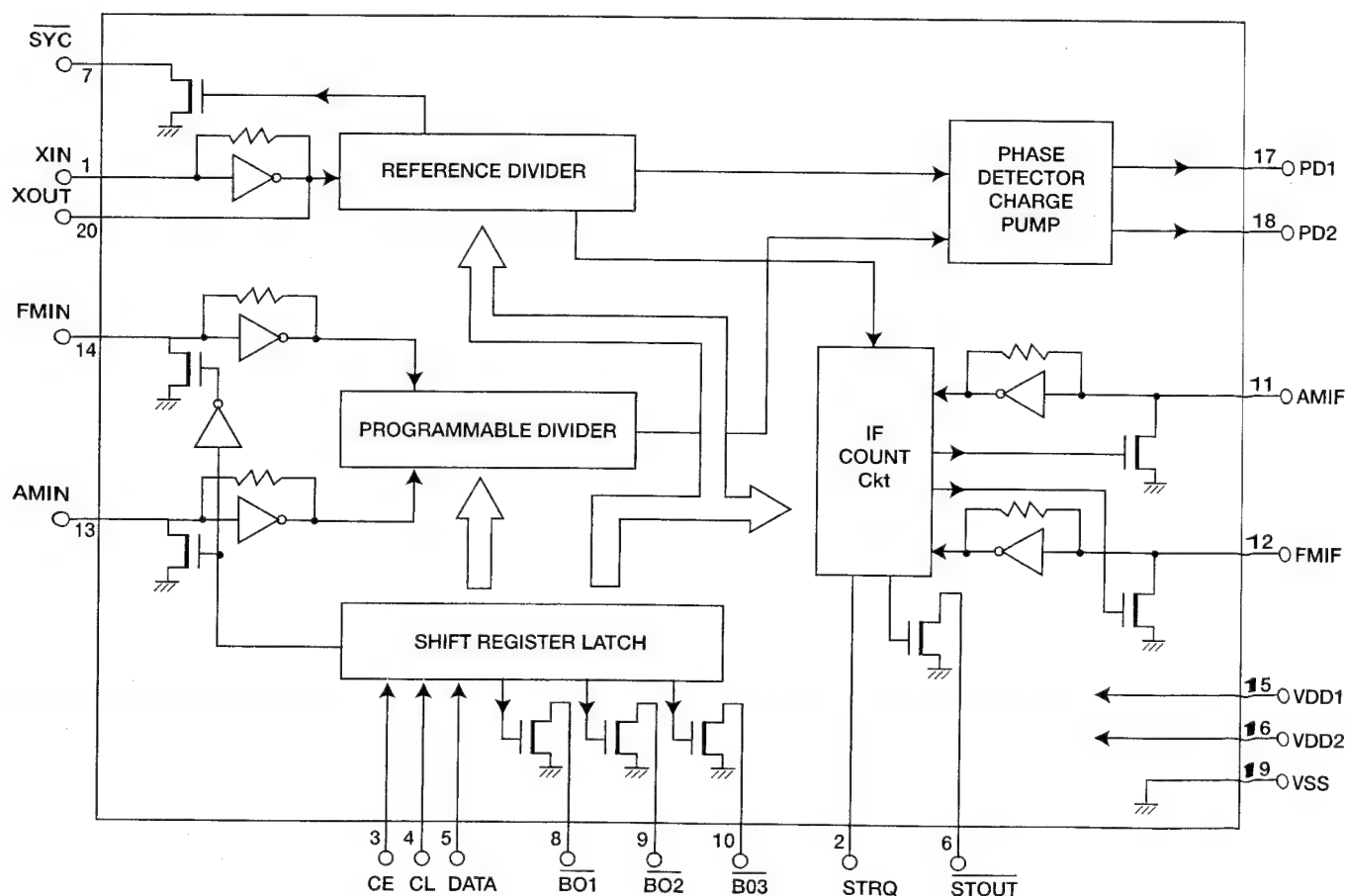
## U701: LB1641



# **FM TUNER BOARD** **U701: LA1836M**



## **U702: LM7000**





## EXPLODED VIEW PARTS LIST

<u>Item</u>	<u>Part No</u>	<u>Description</u>	<u>Qty</u>
0001*AH	1402-6861-1	FASCIA	1
0001*C	1402-6862-1	FASCIA	1
0003	1402-3721-3	BOTTOM CHASSIS	1
0005*AH	1402-3834-1	REAR PANEL W/PAINT/SS	1
0005*C	1402-3835-2	REAR PANEL	1
0009	2437-7601-0	35MM KNOB CORE	1
0011	1464-6011-1	CD DOOR W/PAINT	1
0012	3715-5812-0	LENS WINDOW W/SS	1
0013	4152-4371-1	LINK BUTTON SURROUND	1
0014	2442-1401-1	LINK BUTTON	1
0015	2442-1501-1	BUTTON KIT	1
0018     △	4151-9461-0	STRAIN RELIEF BUSHING	1
0020	2442-1000-0	POWER BUTTON	1
0021	4152-4331-0	POWER BUTTON BEZEL	1
0022	3715-5600-0	VOLUME KNOB LENS	1
0023	4152-4631-0	RUBBER FOOT 14MM HIGH	4
0024	4152-4641-0	CUSHION FOOT	4
0025	4152-1701-0	LED BEZEL	1
0026	1402-7040-3	SUB-FASCIA	1
0027	1402-3845-0	TOP COVER	1
0028	1402-7060-1	BOTTOM COVER	1
0029	1402-7050-3	CD BOARD BRACKET	1
0031	1402-3465-0	VOLUME KNOB	1
0032	4152-4621-0	BASS/TREBLE/BALANCE KNOBS	3
0033	5400-1291-1	FRONT HEAT SINK	1
0034	5400-1301-1	REAR HEAT SINK	1
0036     △	1660-0640-0	SHRINKABLE TUBE ID=30MM	1
0037	4111-0901-1	CD DECK	1
0039	3714-5706-0	LED LENS	1
0040*AH	2113-1172-0	F ANTENNA CONNECTOR	1
0044     △	1806-2203-0	X'FORMER 120/230V	1
0045	4132-8031-0	VR BUSHING	1
0046	4151-9931-0	INSULATION BUSHING	2
0048	3100-3551-0	SI INSULATOR 12X18	2
0050	3100-3211-0	SILICON SHEET 26X20MM	2
0052	4132-5357-0	RESISTOR FLAT BRACKET	1
0053	4152-3586-0	NYLON SPACER I.D. 3.2X5MM	2
0054     △	1660-0610-0	SHRINKABLE TUBE ID=25.4MM	1
0055	4131-7701-0	ANTENNA WASHER	1
0056	1808-0130-0	FERRITE CORE D19XT10	1
0057	4152-0241-0	PAD CORK 15X12X3MM	1
0058	1465-120B-1	TRANSIT LOCK	1
0059	3100-5091-0	PC SHEET 162X11X0.25MM	1
0060	3100-5101-0	PC SHEET 50X7X0.25MM	1
0061	4152-5521-1	LCD GASKET	1
0062	4132-3981-0	TRANSISTOR CLAMP SPRING	2
0063	5400-0851-0	HEATSINK 15MM-HIGH HOLE	2

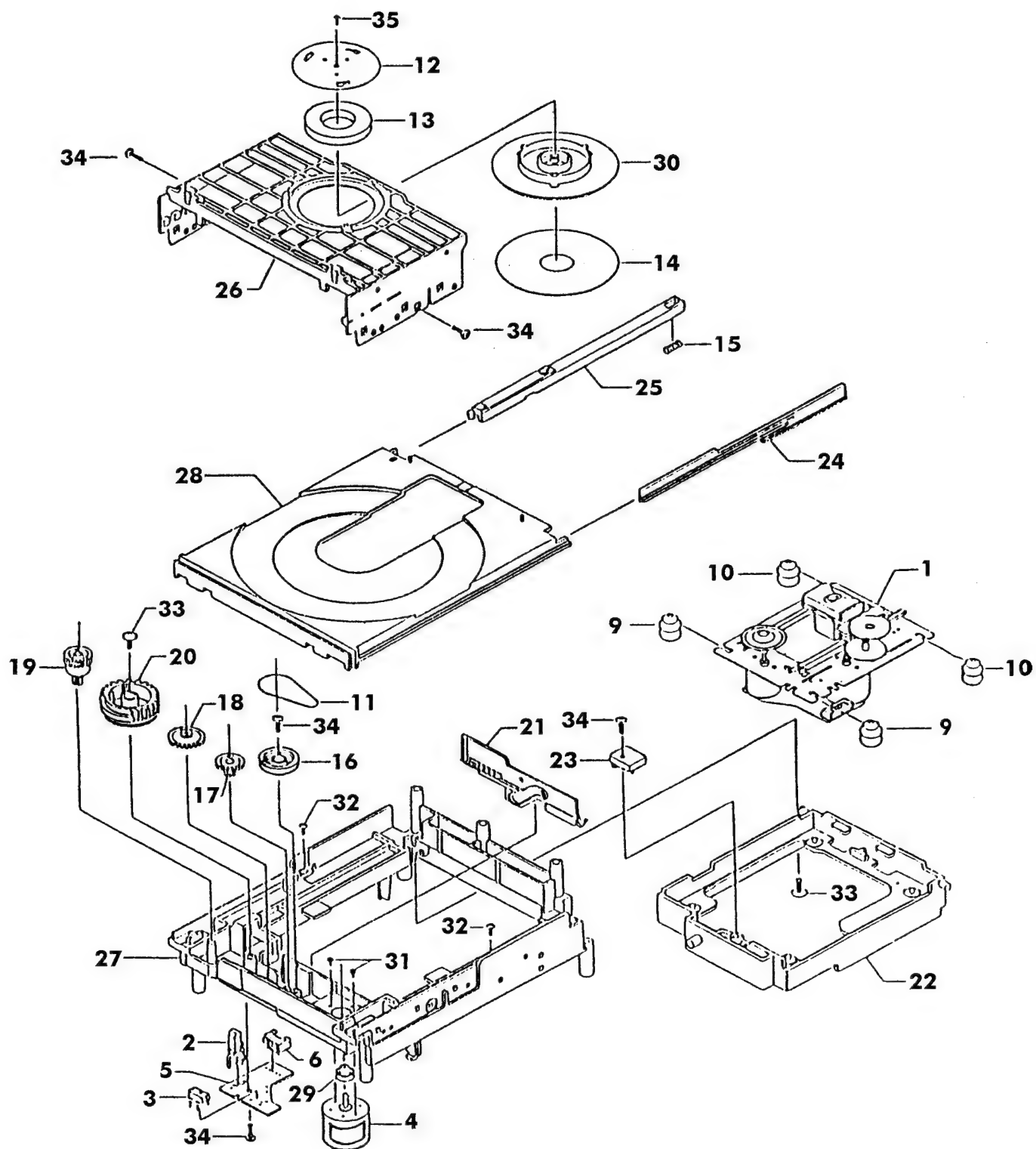
Item	Part No	Description	Qty
0064	5400-1051-0	HEATSINK PLATE 28X12X2T	1
0065	4152-4841-1	BLACK CUSHION	3
0066	4131-9131-0	FUSE HOLDER 6.5MM PITCH RECT	10
0067	5400-9130-0	HEAT SINK	1
0068	5400-0831-0	HEATSINK 20MM-HIGH HOLE	1
0069	2954-2608-0000	SCREW BT 2.6X8	2
0101*AH △	7009-3100-1	AC CORD 18AWGX2 SPT-2 UL/CSA	1
0101*C △	7009-3110-0	AC CORD SEMKO	1
0200	2904-3008-0000	MACHINE SCREW 3X8MM (YEL.ZN)	13
0201	2954-3006-3000	TAPPING 3X6MM B-TITE (BLK.ZN)	4
0202	2951-3008-3000	MACHINE SCREW 3X8 B-TITE (BLK.ZN)	4
0203	2954-3008-3000	TAPPING 3X8MM B-TITE (BLK.ZN)	35
0204	2954-3008-0000	TAPPING 3X8MM B-TITE (YEL.ZN)	14
0209	2954-3010-3000	TAPPING 3X10MM B-TITE (BLK.ZN)	2
0210	2954-3510-3000	TAPPING 3.5X10MM B-TITE (BLK.ZN)	1
0211	2900-4006-3010	M4X0.5PX6MM W/FLAT WASHER	8
0212	2904-3006-0000	MACHINE SCREW M3X6MM (YEL.ZN)	12
0221	2842-3367-0	METAL WASHER ID=3.3 OD=6.7	4
0225	2904-3008-3000	MACHINE SCREW M3X8 (BLK.ZN)	2
0231	2954-4010-3000	TAPPING 4X10MM B-TITE (BLK.ZN)	1
0232	2954-2606-3000	TAPPING 2.6X6MM B-TITE (BLK.ZN)	14
0234	2832-9751-0	NUT 9X0.75X2X11	1
0235	2601-2608-0601	FIBRE WASHER M2.6 0.8T OD=6	2
0301	4151-9411-0	CUSHION 130X10X1MM	1
M001*AH	2103-6004-0	SPK TERM W/O PLUG	1
M001*C	2103-6604-0	SPK TERM W PLUG	1
M002	2113-1196-0	2P RCA JACK YELLOW NI-HSP-242V	1
M003	2113-0104-1	4P RCA JACK R/W NI HSP-244V-01	2
M045	4132-7151-1	LCD/EL HOLDER	1
M046	3716-0702-0	POLYESTER SHEET LEE FILTER	1
M047	3716-0705-0	CLEAR PC SHEET W/SS	1
M100*C	2113-1191-0	DIN ANTENNA CONNECTOR	1
M101	2460-1330-0	LCD DISPLAY	1
M201	2113-1011-0	PHONE JACK 6312-03-070 W/CLIP	1
M302*AH	4132-6221-0	GROUNDING BRACKET	5
M302*C	4132-6221-0	GROUNDING BRACKET	4
M403 △	5200-3431-0	POWER SWITCH W/M3 THREAD	1
M419	2450-0976-0	EL LIGHT	1
R628	4750-3860-0	VR-VOL MOTOR POT 50KX2	1
R652	4750-3676-0	VR-BASS 2X50KC W/WASHER & NUT	1
R658	4750-3646-0	VR-TRE 2X10KC W/WASHER & NUT	1
R684	4750-4820-0	VR-BALANCE 10KW W/WASHER & NUT	1

**NOTE :** - The components identified by △ mark are critical for risk of fire and electrical shock.  
Replace only with part number specified.

- <\*AH> : USA, Canadian model only.  
- <\*C> : European model only.

# MECHANISM EXPLODED VIEW

CD93F8




# EXPLODED VIEW PARTS LIST OF MECHANISM CD93F8

<u>Item</u>	<u>Part No</u>	<u>Description</u>	<u>Qty</u>
1	4102-5002-0	CD94V5 MECHANISM	1
2	4102-5003-0	SWITCH LEAF	1
3	4102-5004-0	SWITCH PUSH 2-1	1
4	4102-5005-0	LOADING MOTOR	1
5	4102-5006-0	CON/SW PCB	1
6	4102-5007-0	CON JST 5P RT	1
9	4102-5008-0	Hardness 60° CUSHION RUBBER	2
10	4102-5009-0	Hardness 50° CUSHION RUBBER	2
11	4102-5010-0	BELT SQUARE	1
12	4102-5011-0	PLATE MAGNET	1
13	4102-5012-0	MAGNET DISK	1
14	4102-5013-0	SHEET	1
15	4102-5014-0	SPRING RAIL	1
16	4102-5015-0	PULLEY GEAR	1
17	4102-5016-0	GEAR IDLER A	1
18	4102-5017-0	GEAR IDLER B	1
19	4102-5018-0	GEAR TRAY	1
20	4102-5019-0	GEAR MEDIATION	1
21	4102-5020-0	SLIDER	1
22	4102-5021-0	CDM MOUNTING BASE	1
23	4102-5022-0	FIXITY	1
24	4102-5023-0	RAIL RIGHT	1
25	4102-5024-0	RAIL LEFT	1
26	4102-5025-0	SUPPORT MAGNET	1
27	4102-5026-0	BASE FRAME	1
28	4102-5027-0	CD TRAY	1
29	4102-5028-0	PULLEY MOTOR	1
30	4102-5029-0	HOLDER MAGNET	1
31	4102-5030-0	SCREW PAN+SW 1.7x3.5	2
32	4102-5031-0	SCREW S-TPG PAN+FLG 2x6	2
33	4102-5032-0	SCREW S-TPG BRZ+FLG 3x8	2
34	4102-5033-0	SCREW S-TPG BIN 2.6x7.8	5
35	4102-5034-0	SCREW SPECIAL 1.7x4.0	1



# ELECTRICAL PARTS LIST

<u>Reference No.</u>	<u>Part No.</u>	<u>Description</u>
<b><u>HEADPHONE BOARD</u></b> <b>PC BOARD</b>	PCB-N0810C-HEAD	HEADPHONE ASSEMBLY
<b><u>LED BOARD</u></b> <b>PC BOARD</b>	PCB-N0810C-LED	LED ASSEMBLY
<b>LED</b> D402	3700-3513-Y	LED AMBER (L-424YDT)
<b><u>EL BOARD</u></b> <b>PC BOARD</b>	PCB-N0810C-EL	EL ASSEMBLY
<b>CAPACITOR</b> C667	157D-476M-5-IU	CE 16V 47 $\mu$ F 20%
<b>COILS</b> L601 L602	1801-102K-M 1801-100K-M	COIL 1mH 10% COIL 10 $\mu$ H 10%
<b>INVERTER</b> M647	1806-2217-0	INVERTER 5VDC TO 70-110VAC
<b>VARIABLE RESISTOR</b> R682	4756-4716-3-03	SVR 470E H3 MAT EVN-D8A A03
<b>DIODE</b> D601	4837-8A30-2	ZENER DIODE 1/2W 9.9-10.3V
<b><u>SPEAKER TERMINAL BOARD</u></b> <b>PC BOARD</b> *AH *C	PCB-N0810C-SPK PCB-N0811C-SPK	SPEAKER TERMINAL ASSEMBLY SPEAKER TERMINAL ASSEMBLY
<b><u>POWER SWITCH BOARD</u></b> <b>PC BOARD</b>	PCB-N0810C-SW	POWER SWITCH ASSEMBLY
<b>CAPACITOR</b> C415 	8910-0049-0	CAP400V 4700P DE7150F472MVA1KC
<b><u>VOLUME BOARD</u></b> <b>PC BOARD</b>	PCB-N0810C-VOL	VOLUME ASSEMBLY
<b>CAPACITOR</b> C601	157D-106M-5-II	CE 16V 10 $\mu$ F 20%

<b><u>Ref. No.</u></b>	<b><u>Part No.</u></b>	<b><u>Description</u></b>
<b><i>RESISTOR</i></b> R628	4750-4476-0	MOTORIZED POT 2X20KA
<b><i>IC</i></b> U601	3130-3410-0	IC LB1642 MOTOR DRIVER
<b><i>PSU BOARD</i></b> <b><i>PC BOARD</i></b> *AH *C	PCB-N0810C-PSU PCB-N0811C-PSU	PSU ASSEMBLY PSU ASSEMBLY
<b><i>CAPACITORS</i></b> C401-C402	8910-0057-0	CE 63V 4700μF 20%
<b><i>DIODES</i></b> D401-D402 D403	4840-1120-0 4804-0010-2	BRIDGE DIODE RS203L DIODE 1N4001 AT
<b><i>FUSES</i></b> M404-M405*AH △  M404-M405*C △	5120-0037-0  5120-0065-0	FUSE 250V 3.15A TIME LAG UL/CSA 5X20MM FUSE 250V 2A TIME LAG SEMKO/VDE 5X20MM
<b><i>JUMPER</i></b> J401*AH J402*C	635N-0001-0 635N-0001-0	WJ #23 D=0.6MM WJ #23 D=0.6MM
<b><i>RELAY</i></b> M401 △	4500-0200-0	RELAY 2P2T MIB-12H
<b><i>RESISTORS</i></b> R401 △ R406*AH △	4715-220J-2-F 4717-275J-2-S	RFU 1/4W 22 OHM 1/4W 5% RAS 1/2W 2.7M OHM 1/2W 5% UL
<b><i>KEYBOARD BOARD</i></b> <b><i>PC BOARD</i></b> *AH *C	PCB-N0810C-KEY PCB-N0811C-KEY	KEYBOARD ASSEMBLY KEYBOARD ASSEMBLY
<b><i>CAPACITORS</i></b> C401 C405 C408	157E-476M-5-IQ 157D-227M-5-KW 4060-0550-0	CE 25V 47μF 20% CE 16V 220μF 20% SUPERCAP 0.47F FYDOH4742
<b><i>DIODES</i></b> D405,D408-D409	4804-1480-C	DIODE 1N4148 ATS
<b><i>JUMPER</i></b> J452*AH J453*C	635N-0001-0 635N-0001-0	WJ #23 D=0.6MM WJ #23 D=0.6MM
<b><i>LCD DISPLAY</i></b> M101	2460-1330-0	LCD DISPLAY

<b>Reference No.</b>	<b>Part No.</b>	<b>Description</b>
<b>SWITCHES</b> M401-M416	5200-3011-0-01	TACT SWITCH 4P
<b>IR SENSOR</b> M417	4816-043T-3	IR SENSOR MODULE
<b>CRYSTAL</b> M418	2300-1770-0	CRYSTAL 6.0MHZ +-20PPM
<b>EL LIGHT</b> M419	2450-0976-0	EL LIGHT
<b>TRANSISTORS</b> Q403,Q405 Q404	4858-050I-5 4858-550I-5	TR LM8050I HFE 100-250 TR LM8550I HFE 100-250
<b>IC</b> U401	3130-7640-0	IC LC867248A MICROCONTROLLER
<b><u>TONE CONTROL BOARD</u></b> <b>PC BOARD</b>	PCB-N0810C-TONE	TONE CONTROL ASSEMBLY
<b>CAPACITORS</b> C637-C638 C641-C642 C643-C644 C645-C646 C649-C650 C665-C666	153F-823J-5-SY 153F-183J-5-KP 153F-104J-5-SY 157F-105M-5-IU 157C-107M-5-IU 157D-107M-5-IU	CM 50V 0.082 $\mu$ F 5% CM 50V 0.018 $\mu$ F 5% CM 50V 0.1 $\mu$ F 5% CE 50V 1 $\mu$ F 20% CE 10V 100 $\mu$ F 20% CE 16V 100 $\mu$ F 20%
<b>RESISTORS</b> R652 R658 R684	4750-3676-0 4750-3646-0 4750-4820-0	VR BASS 2X50KC VR TREBLE 2X10KC VR BALANCE 10KW
<b>IC</b> U607	3130-3680-0	IC NJM2043D DUAL OP AMP
<b><u>CD SERVO BOARD</u></b> <b>PC BOARD</b>	PCB-N0810C-SERV	CD SERVO ASSEMBLY
<b>CAPACITORS</b> C101 C106 C107 C109 C113 C114 C115 C118 C119 C120 C122 C124 C126	153F-104J-5-PT 153F-473K-5-NO 157F-104M-5-IU 153F-154K-5-KM 153F-104J-5-PT 153F-153K-5-KP 153F-183J-5-KP 157F-224M-5-IU 157E-475M-5-GM 157E-226K-5-IU 15CH-050C-J-BDL 15CG-120J-J-BD 157E-106M-5-IU	CM 50V 0.1 $\mu$ F 5% CM 50V 0.047 $\mu$ F 10% CE 50V 0.1 $\mu$ F 20% CM 50V 0.15 $\mu$ F 10% CM 50V 0.1 $\mu$ F 5% CM 50V 0.015 $\mu$ F 10% CM 50V 0.018 $\mu$ F 5% CE 50V 0.22 $\mu$ F 20% CE 25V 4.7 $\mu$ F 20% CE 25V 22 $\mu$ F 10% CC 50V 5pF +/-0.25pF NPO CC 50V 12pF 5% NPO CE 25V 10 $\mu$ F 20%

<b>Reference No.</b>	<b>Part No.</b>	<b>Description</b>
C128-C129	157B-107M-5-KM	CE 6.3V 100µF 20%
C132	157F-334K-5-luF	CE 50V 0.33µF 10%
C134	157C-476M-5-IU	CE 10V 47µF 20%
C135	157B-227M-5-KW	CE 6.3V 220µF 20%
C138	157D-106M-5-GM	CE 16V 10µF 20%
C139	157B-107M-5-KM	CE 6.3V 100µF 20%
C141	157F-225M-5-GM	CE 50V 2.2µF 20%
C202	157C-477M-5-OW	CE 10V 470µF 20%
C204	157F-105M-5-GM	CE 50V 1µF 20%
C304,C308	157B-107M-5-KM	CE 6.3V 100µF 20%
C321	15CG-100J-J-BD	CC 50V 10pF 5% NPO
C324	157B-107M-5-KM	CE 6.3V 100µF 20%
C325-C326	153I-474K-5-RPM	CM 63V 0.47µF 10%
C368-C369	157E-226K-5-IU	CE 25V 22µF 10%
C373-C374	157D-477M-5-OVK	CE 16V 470µF 20%
C702	157C-477M-5-OU	CE 10V 470µF 20%
C720	157C-476M-5-II	CE 10V 47µF 20%
C721	157C-477M-5-OW	CE 10V 470µF 20%
J025/J875	157D-227M-5-KW	CE 16V 220µF 20%
<b>DIODES</b>		
D401-D402	4804-1480-C	DIODE 1N4148 ATS
D701	4837-5V11-2	DZ 5.1V 1/2W AT
<b>CRYSTAL</b>		
M402	2300-0110-0	CRYSTAL 16.9344 MHZ
<b>TRANSISTORS</b>		
Q101	4851-015Y-5	TR 2SA1015-Y HFE 120-240
Q301-Q302	4853-875Y-3	TR KTC3875Y
Q305	485A-1346-5	TR 2SA1346 HFE 50-100
Q501	4858-550I-5	TR LM8550I HFE 100-250
Q502	485B-772P-5	TR 2SB772P PNP POWER TR
Q503	4859-014C-5	TR 9014C HFE 200-600
<b>ICs</b>		
Q504	3130-2020-2	IC 7805 5V REGULATOR
Q505	3130-0640-0	IC NJM78L05A 5V REGULATOR
U101	3130-6710-0	IC LA9240 ASP FOR CD QIP64E
U201	3130-6720-0	IC LA6541D 4-CHANNEL BTL DRIVER DIP30
U301	3130-6700-0	IC LC78621ED DSP FOR CD QIP80E
U302	3130-4390-0	IC SM5874AM-ET D/A CONVERTER
U305-U306	3130-5830-0	IC NJM4565D OP AMP
U701	3130-6560-0	IC LB1641 MOTOR DRIVER
<b>FM TUNER BOARD</b>		
<b>PC BOARD</b>		
*AH	PCB-N0810C-TUN	FM TUNER ASSEMBLY
*C	PCB-N0811C-TUN	FM TUNER ASSEMBLY
<b>CAPACITORS</b>		
C701*C-C702*C	150F-200J-J-BD	CC 50V 20pF 5%
C703*C-C704*C,C706 *C	150F-472K-J-BD	CC 50V 4700pF 10%
C705*C	150F-102K-J-BD	CC 50V 1000pF 10%
C715	153F-224J-5-MIB	CM 50V 0.22µF 5%
C716	153F-103J-5-IM	CM 50V 0.01µF 5%

<b>Reference No.</b>	<b>Part No.</b>	<b>Description</b>
C717-C718	157D-336M-5-IU	CE 16V 33μF 20%
C720	157D-476M-5-IMK	CE 16V 47μF 20%
C722	1551-0210-0	TRIMCAP 5.2-30P TZ03R300FR
C723-1	15UJ-180J-5-GG	CC 50V 18pF 5% NPO
C725	157D-106M-5-GM	CE 16V 10μF 20%
C728	157D-476M-5-IMK	CE 16V 47μF 20%
C732,C734	157D-335M-5-II	CE 16V 3.3μF 20%
C735	157E-105M-5-IU	CE 25V 1μF 20%
C737	157F-105M-5-GM	CE 50V 1μF 20%
C739	157D-106M-5-GM	CE 16V 10μF 20%
C744	157D-107M-5-IU	CE 16V 100μF 20%
C745	157D-476M-5-IMK	CE 16V 47μF 20%
C746	157D-106M-5-GM	CE 16V 10μF 20%
C747-C748	157D-475M-5-EI	CE 16V 4.7μF 20%
C753	157D-106M-5-GM	CE 16V 10μF 20%
C777°C	150F-102K-J-BD	CC 50V 1000pF 10%
C784	153F-224J-5-MIB	CM 50V 0.22μF 5%
<b>COILS</b>		
L701-L702,L704	1801-2R2M-M	COIL 2.2μH 20%
L703	5600-1816-T	TUNER IFT 10.7MHZ
L708	2701-0609-4	BAND PASS FILTER 64-108MHZ
L710-L711	5600-2236-S	19KHZ FILTER COIL
<b>TUNER MODULE</b>		
M702	1300-0636-0	FM F/E TUNER KEC KCF205H
<b>RESONATORS &amp; CRYSTALS</b>		
M703-M704	2701-0116-1	CF 10.7+-30 SFE10.7MS3-A
M705	2703-0040-0	CR 456F15
M706	153F-473K-5-NO	CM 50V 0.047μF 10%
M707	2300-0440-0	CRYSTAL 7.2MHZ 20PPM
M708°C	2300-1220-0	CRYSTAL 4.332MHZ
<b>TRANSISTORS</b>		
Q701	490K-208Y-3	FET 2SK208(Y) IDS 1.2-3.0
Q702,Q705,Q707°C	4853-875Y-3	TR KTC3875Y
Q706	4852-814F-3	TR 2SC2814 HFE 60-180
<b>RESISTORS</b>		
R768	4756-1036-3-03	SVR 10K H3 6.7X6.3
R770°C	4720-102J-J	RMG 1K OHM 1/10W 5%
R771°C	4720-334J-J	RMG 330K OHM 1/10W 5%
R772°C	4720-474J-J	RMG 470K OHM 1/10W 5%
R773°C	4720-332J-J	RMG 3.3K OHM 1/10W 5%
R774°C	4720-102J-J	RMG 1K OHM 1/10W 5%
<b>ICS</b>		
U701	3130-6420-0	IC LA1836M FM/AM IF+MPX
U702	3130-3430-0	IC LM7000 DTS
U703°C	3130-5570-0	IC UPC2539 RDS DEMODULATOR
<b>MAIN BOARD</b>		
<b>PC BOARD</b>		
*AH	PCB-N0810C-MAIN	MAIN BOARD ASSEMBLY
*C	PCB-N0811C-MAIN	MAIN BOARD ASSEMBLY

<u>Reference No.</u>	<u>Part No.</u>	<u>Description</u>
<b>CAPACITORS</b>		
C203-C204	157E-106M-5-IU	CE 25V 10μF 20%
C205-C206	157E-447Z-5-S5	CE 25V 470μF +80/-20%
C207-C208	157F-108M-5-W9	CE 50V 1000μF 20%
C211-C212	157E-476M-5-IU	CE 25V 47μF 20%
C213-C214	157F-105M-5-IU	CE 50V 1μF 20%
C215-C216	157I-227M-5-S9	CE 63V 220μF 20%
C217-C218	153I-104J-9-NL	CM 63V 0.1μF 5%
C221-C222	153I-102J-9-NL	CM 63V 0.001μF 5%
C223-C224	8910-0057-0	CE 63V 4700μF 20%
C227-C228	157I-106M-5-IU	CE 63V 10μF 20%
C503	157E-228M-5-X9	CE 25V 2200μF 20%
C505	157F-108M-5-W9	CE 50V 1000μF 20%
C509	157D-337M-5-OVK	CE 16V 330μF 20%
C511	157D-338M-5-W@	CE 16V 3300μF 20%
C514	157E-228M-5-X9	CE 25V 2200μF 20%
C516	157C-337M-5-OW	CE 10V 330μF 20%
C517	157E-228M-5-X9	CE 25V 2200μF 20%
C518	157D-337M-5-OVK	CE 16V 330μF 20%
C611-C620	157D-106M-5-IU	CE 16V 10μF 20%
C621-C624	153I-224J-9-NL	CM 63V 0.22μF 5%
C629-C630	157E-106M-5-IU	CE 25V 10μF 20%
C633-C634	157D-106M-5-IU	CE 16V 10μF 20%
C635-C636	157D-107M-5-IU	CE 16V 100μF 20%
C651-C652	157E-226M-5-IU	CE 25V 22μF 10%
C655-C656,C663-C664	157D-106M-5-IU	CE 16V 10μF 20%
C657-C660	157E-106M-5-IU	CE 25V 10μF 20%
C665	157D-337M-5-OVK	CE 16V 330μF 20%
<b>DIODES</b>		
D201-D204,D209-D213	4804-1480-C	DIODE 1N4148 ATS
D205-D206	4804-0010-2	DIODE 1N4001 AT
D207-D208	4837-3B20-2	DZ 1/2W 3.8-4.0V AT
D214-D215	4837-8A30-2	DZ 1/2W 9.9-10.3V AT
D405-D408,D506	4804-1480-C	DIODE 1N4148 ATS
D504-D505	4840-0490-0	BRIDGE RECTIFIER RB152 100V 1.5A
D601	4837-7C20-2	DZ 1/2W 9.1-9.5V AT
D602-D603	4804-1480-C	DIODE 1N4148 ATS
D604	4837-7V51-2	DZ 1/2W 7.5V ROHM AT
U504	4804-0010-2	DIODE 1N4001 AT
<b>FUSES</b>		
M410*AH-M412*AH △	5100-1020-1A	FUSE 125V 1A TIME LAG UL/CSA 5X20MM
M410*C-M412*C △	5100-1020-1B	FUSE 125V 1A TIME LAG SEMKO/VDE 5X20MM
<b>COILS</b>		
L201-L202	1804-0540-0	SPRING COIL 1mH
<b>TRANSISTORS</b>		
Q203-Q204	4860-0650-5	TR 2SA970GR
Q205-Q206	4852-40GR-5	TR 2SC2240GR
Q207-Q208	4860-1050-5	TR 2SA1837 HFE 100-320
Q209-Q210	4860-1220-5	TR 2SC3421
Q211-Q212	4860-1420-5	MOS FET BUK555-60B
Q213-Q214	4860-1460-5	TR 2SB817 (E) HFE 100-200
Q215-Q218	4860-0650-5	TR 2SA970GR

Reference No.	Part No.	Description
Q219-Q220,Q223-Q224	4852-40GR-5	TR 2SC2240GR
Q225-Q226	4860-0870-5	TR 2SB631K (E,F)
Q501	485B-772P-5	TR 2SB772P PNP POWER TR
Q502,Q504	4858-050I-5	TR LM8050I HFE 100-250
Q503	4858-550I-5	TR LM8550I HFE 100-250
Q601-Q602	4852-40GR-5	TR 2SC2240GR
Q603-Q604	4860-0650-5	TR 2SA970GR
Q605-Q606	4858-050D-5	TR 8050D
Q607-Q609	4858-050I-5	TR LM8050I HFE 100-250
<b>RESISTORS</b>		
R229-R230 ▲	4715-101J-2-F	RFU 100 OHM 1/4W 5%
R245-R246 ▲	474B-0R1J-5	RCE 0.1 OHM 5W 5%
R265	8910-0031-0	T.S-110 PTH9M04BC471TS2F
R276,R279	4756-1016-3-06	SVR H6 100 OHM RH0615C
R640-R641	635N-0001-0	WJ #23 D=0.6MM
<b>ICS</b>		
M402	3130-7650-0	IC 7810 10V REGULATOR
U403	3130-0980-0	IC HCF 4001BE
U501	3130-2520-2	IC 7812H 12V REGULATOR
U502	3130-3800-0	IC UPC79M12HF -12V REGULATOR
U504	3130-2020-3	IC 7805 5V REGULATOR
U505	3130-2790-1	IC 78M08 8V REGULATOR
U601	3130-3730-1	IC TC9164AN HV ANALOG SW
U602	3130-3560-0	IC NJM072 OP AMP
U603	3130-0890-0	IC NJM4558D DUAL OP AMP
U604	3130-5220-0	IC 4066 QUAD BILATERAL SWITCH
U605-U606	3130-3680-0	IC NJM2043D DUAL OP AMP

**NOTE:** – The components identified by ▲ mark are critical for risk of fire and electrical shock. Replace only with part number specified.

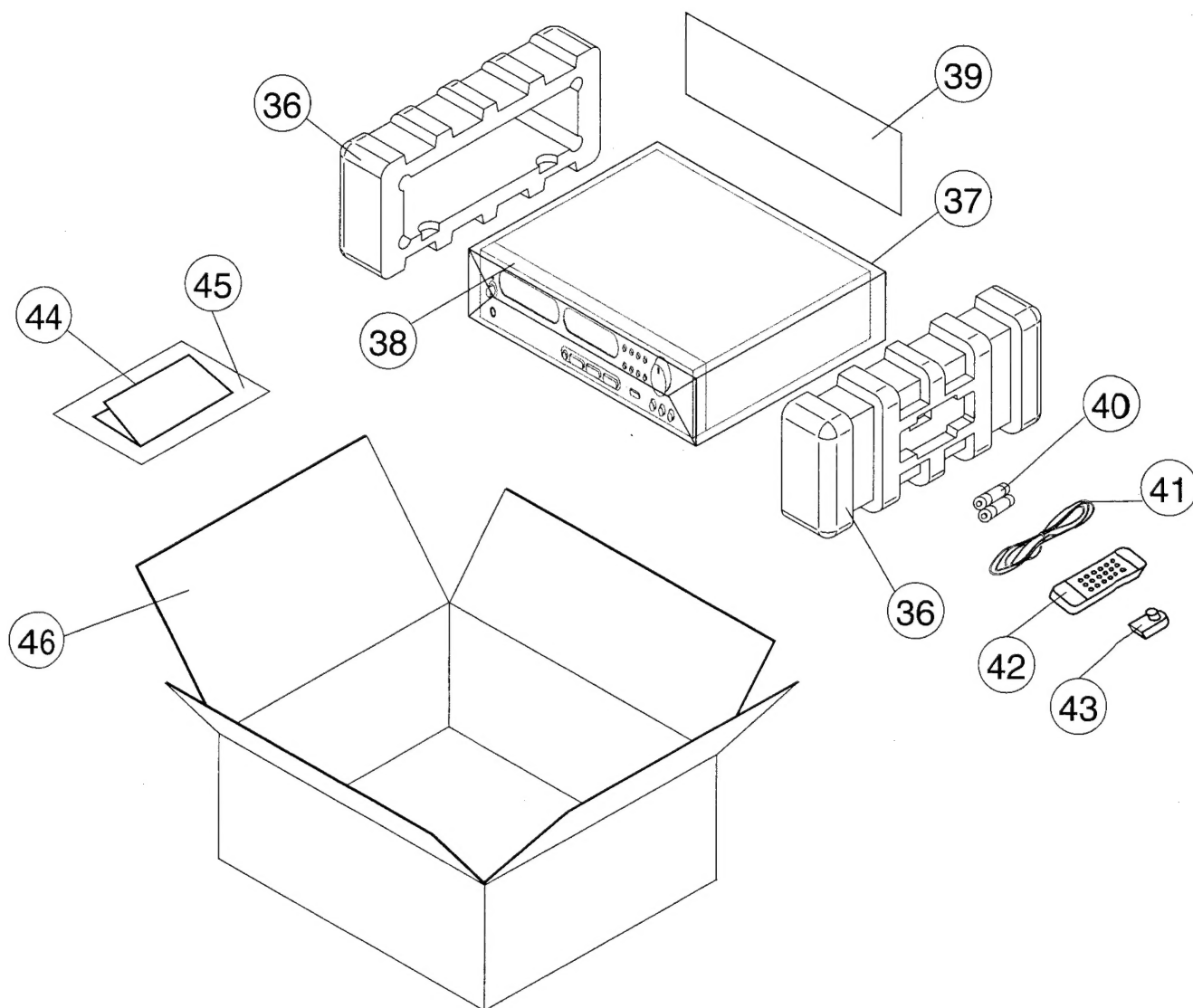
- <\*AH> : USA, Canadian model only.
- <\*C> : European model only.
- Capacitors : CM-Mylar, CE-Electrolytic, CC-Ceramic.
- Resistors : RFU-Fusible, RAS-Anti-Surge, RCE-Ceramic Case.

## REVISION HISTORY

Location	Old Part	New Part	Serial No.
1. Keyboard R436	Axial Lead	SMD	After G87L4000959
2. Keyboard R437	/	RCF 100K 5% 1/8W	After G87L4000959
3. Keybaord C408	0.1F	0.47F	After G8XL4003600★
4. FM Tuner Board R781	6.8K	4.7K	After G87L4000959
5. Main Board R430	Metal Glaze	Carbon Film	After G87L4000959
6. Main Board C430	SMD	Conventional	After G87L4000959
7. EL Board D601	/	1/2W 9.9-10.3V	After G87L4000959
8. Speaker Board C232,C233	0.1uF	1000pF	After G87L4000959
9. LED Board D402	Dual Colour	Amber Colour	After G8XL4004495★

**Remark :** “★” indicates target start serial number.

## PACKING DIAGRAM



ITEM	PART NO.	DESCRIPTION	Q'TY
36	1490-1843-1	POLYFOAM ENDCAP	2
37	1497-1332-1	UNIT POLYBAG	1
38	1497-1442-1	FASCIA COVER	1
39	1497-1320-0	ACCESSORIES POLYBAG	1
40	4060-0530-0	BATTERIES	2
41	2107-0661-1	300 OHM T ANTENNA	1
42	8900-1610-0	REMOTE CONTROL HANDSET	1
43	2103-6101-0 *AH	RF CONNECTOR PLUG	1
43	2103-6101-1 *C	RF CONNECTOR PLUG	1
44	4301-3857-0	INSTRUCTION MANUAL	1
45	1497-1062-0	MANUAL POLYBAG	1
46	1477-3101-0	CARTON BOX	1

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